# Gizem Korkmaz, PhD (CV, January 2021)

# Research Associate Professor Biocomplexity Institute & Initiative, University of Virginia Social and Decision Analytics Division 1100 Wilson Blvd Suite 2910, Arlington VA 22209 Phone: +1 434-243-7334 Email: [gkorkmaz@virginia.edu](mailto:gkorkmaz@virginia.edu)

# Professional Preparation

Ph.D., Economics, European University Institute (EUI), Florence - Italy 2012

Thesis: “Network Structure Matters: Applications to R&D Collaboration, Collusion, and   
Online Communication Networks” Advisor: Prof. Fernando Vega-Redondo

M.A., Economics, Boğaziçi University, Istanbul - Turkey 2009

M.Sc., Economics, European University Institute (EUI), Florence - Italy 2008

B.A. with Honors, Economics, Boğaziçi University, Istanbul - Turkey 2005

# Positions & Employment

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| * Research Associate Professor, Social and Decision Analytics Division,   Biocomplexity Institute & Initiative, University of Virginia | Oct. 2018 – current |
| * Adjunct Faculty, Department of Agriculture and Applied Economics, Virginia Tech | Mar. 2018 – current |
| * Research Assistant Professor, Social and Decision Analytics Laboratory,   Biocomplexity Institute of Virginia Tech | Aug. 2014 – Oct. 2018 |
| * Postdoctoral Associate, Social and Decision Analytics Laboratory, Biocomplexity Institute of Virginia Tech | Feb. 2014 – Aug. 2014 |
| * Postdoctoral Associate, Biocomplexity Institute of Virginia Tech   Network Dynamics and Simulation Science Laboratory (NDSSL) | Jan. 2013 – Feb. 2014 |
| * Research Associate, NDSSL, Biocomplexity Institute of Virginia Tech | Oct. 2012 – Jan. 2013 |
| * Visiting Scholar, NDSSL, Biocomplexity Institute of Virginia Tech | Oct. 2011 – Apr. 2012 |
| * Graduate Research Assistant, Department of Social and Political Science, European University Institute (EUI) | Sep. 2008 – Jun. 2009 |
| * Graduate Teaching Assistant, Department of Economics, EUI | Sep. 2008 – May 2009 |
| * Graduate Research and Teaching Assistant,   Department of Economics, Boğaziçi University (Boun) | Sep. 2005 – Aug. 2007 |
| * Undergraduate Teaching Assistant, Department of Economics, Boun | Sep. 2003 – May 2005 |

# Honors & Awards

* Financial Support to the National Science Foundation Fourth Annual Conference on Network Science and Economics, Vanderbilt University Department of Economics, Nashville, Apr. 2018; and Indiana University Bloomington, Apr. 2019.
* Full Scholarship Award by the National Economists Club (NEC) for the National Association for Business Economics (NABE) Economic Policy Conference, Washington D.C., Mar. 2017
* Outstanding New Faculty Award, Virginia Tech National Capital Region Faculty Association, Dec. 2016.
* Contributing Faculty, “Early Model Based Event Recognition using Surrogates (EMBERS) Software” won Inventors of the Month, The Office of the Vice President for Research and Innovation, Virginia Tech, Nov. 2016.
* PhD Grant to the XXXVI Symposium of Spanish Economic Association, Malaga, Spain, Dec. 2011
* PhD Bursary to the 7th UK Social Network Conference, London, UK, Jul. 2011

- Scholarship for Summer School in Economics 2011, Uni. Carlos III de Madrid, Spain, May 2011

* Contributing Researcher and Country Team Leader for Turkey, “*EU Profiler: The First Europe-wide Voting Advice Application for 2009 European Parliamentary Elections*” won World e-Democracy Forum Award, European University Institute, Oct. 2009.
* Graduate Scholarship by Italian Ministry of Foreign Affairs (2007 – 2011)
* Graduate Scholarship of Scientific and Technological Research Council of Turkey (2006 – 2007)
* Scholarship of Istanbul Metropolitan Municipality, Turkey (2003 – 2005)
* Turkish Ministry Success Grant (2000 – 2005)

# Research and Teaching Interests

Social and Economic Networks, Game Theory, Behavioral Economics, Social and Decision Analytics, Industrial Organization, Applied Microeconomic Theory, R&D Economics, Innovation, Collective Action, Social Contagion, Social Media Analytics, Political Economy, Policy Analytics

# Peer-Reviewed Publications

Kuhlman C.J.; **G. Korkmaz;** S.S. Ravi; & F. Vega-Redondo. (2020). “Effect of Interaction Mechanisms on Facebook Dynamics Using a Common Knowledge Model." (Forthcoming) *Proceedings of the 2020 Complex Networks Conference.*

Kuhlman C.J.; **G. Korkmaz**; S.S. Ravi; & F. Vega-Redondo. (2020). “An Agent-Based Model of Common Knowledge and Collective Action Dynamics on Social Networks." (Forthcoming) *Proceedings of the 2020 Winter Simulation Conference.*

Swarup, S.; M. Orr; **G. Korkmaz;** & K. Lakkaraju. (2020, May). “Humans vs. bots: investigating models of behavior in the Iterated Prisoner's Dilemma. In *Proceedings of the 2020 Spring Simulation Conference* (pp. 1-12).

Kelling, C.; C. Graif; **G. Korkmaz;** & Haran M. (2020, Mar). “Combining Geographic and Social Proximity to Model Urban Domestic and Sexual Violence.” *Journal of Quantitative Criminology.* https://doi. org/10.1007/s10940-020-09454-w

Keller, S.A.; S.S. Shipp; A. Schroeder; & **G. Korkmaz** (2020, Jan) “Doing data science: A framework and case study.” *Harvard Data Science Review*. 2020 January 31; 2(1).

Cedeno-Mieles, Vanessa *et al. (2020, Jan) “*Networked experiments and modeling for producing collective identity in a group of human subjects using an iterative abduction framework.” *Social Network Analysis and Mining (SNAM). 10:11*

**Korkmaz, G.**; C. Kelling; C. Robbins; & S. Keller. (*2019, Dec).* “Modeling the Impact of Python and R Packages Using Dependency and Contributor Networks.*” Social Network Analysis and Mining (SNAM). 10:7.* [*https://doi.org/10.1007/s13278-019-0619-1*](https://doi.org/10.1007/s13278-019-0619-1)

**Korkmaz, G.**; C.J. Kuhlman; J. Goldstein; & F. Vega-Redondo. (*2019, Dec).* “A Computational Study of Homophily and Diffusion of Common Knowledge on Social Networks Based on a Model of Facebook.” *Social Network Analysis and Mining (SNAM). 10:5. doi:10.1007/s13278-019-0615-5*

Arnsbarger, Madison; J. Goldstein; C. Kelling; **G. Korkmaz**; & S. Keller. (2019). “Spatial Modeling Response Time to Structure Fires.” *The American Statistician.* doi: [10.1080/00031305.2019.1695664](https://doi.org/10.1080/00031305.2019.1695664)

Hu, Deng et al. “On the Modeling and Agent-based Simulation of a Cooperative Group Anagram Game.” *In Proceedings of 2019 Winter Simulation Conference (WSC*). National Harbor, Maryland Dec. 2019.

Cedeno-Mieles, Vanessa *et al. (2019, Aug). "Mechanistic and Data-Driven Agent-Based Models to Explain Human Behavior in Online Networked Group Anagram Games," 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Vancouver, BC, Canada, 2019, pp. 357-364, doi: 10.1145/3341161.3342965.*

Keller, S.A.; **G. Korkmaz**; C. Robbins; & S. Shipp. (2018). “Opportunities to Observe and Measure Intangible Inputs to Innovation: Definitions, operationalization, and examples.” *Proceedings of the National Academy of* Sciences (PNAS). 115 (50), 12638-12645.

**Korkmaz, G.;** M. Capra; A. Kraig; C. J. Kuhlman; K. Lakkaraju; & F. Vega-Redondo. (2018). “Coordination and Collective Action on Communication Networks.” *Proceedings of the 17th ACM International Conference on Autonomous Agents and Multi-agent Systems* (AAMAS), Stockholm, Sweden, July 10–15, 2018, pp. 1062-1070. International Foundation for Autonomous Agents and Multiagent Systems.

**Korkmaz, G.**; C.J. Kuhlman; J. Goldstein; & F. Vega-Redondo. (2018). “A Model of Homophily, Common Knowledge and Collective Action Through Facebook.” *Proceedings of the 2018 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)* pp. 409-412.

**Korkmaz, G.**; C. Kelling; C. Robbins; & S. Keller. (2018). “*Modeling the Impact of R Packages Using Dependency and Contributor Networks*.” *Proceedings of the 2018 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)* pp. 511-514. IEEE.

Ren, Y.; V. Cedeno-Mieles; et al. (2018). “Generative Modeling of Human Behavior and Social Interactions Using Abductive Analysis. *Proceedings of the 2018 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)* pp. 413-420. IEEE.

Crandell, I. and **G. Korkmaz.** (2018). “*Link Prediction in the Criminal Network of Albuquerque*.” *Proceedings of the 2018 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)* pp. 564-567. IEEE.

Pires, B.; **G. Korkmaz**; K. Ensor; D. Higdon; S. Keller; B. Lewis; & A. Schroeder. (2018). "Estimating Individualized Exposure Impacts from Ambient Ozone Levels: A Synthetic Information Approach" *Environmental Modeling and Software*. 103:146-157.

Keller, S.A.; S. Shipp; **G. Korkmaz**; E. Molfino; J. Goldstein; V. Lancaster; B. Pires; D. Higdon; D. Chen; & A. Schroeder. (2018). "Harnessing the Power of Data to Support Community-Based Research." *WIREs Computational Statistics*. e1426.

**Korkmaz, G.**; C.J. Kuhlman; S. S. Ravi; & F. Vega-Redondo. (2018). "Spreading of Social Contagions without Key Players." *World Wide Web: Internet and Web Information Systems.* 21:1187-1221.

Ziemer, K. and **G. Korkmaz.** (2017). "Using Text to Predict Psychological and Physical Health: A Comparison of Human Raters and Computerized Text Analysis." *Computers in Human Behavior.* 76: 122-127.

Keller, S.; **G. Korkmaz**; M. Orr; A. Schroeder; & S. Shipp. (2017). “The Evolution of Data Quality: Understanding the Transdisciplinary Origins of Data Quality Concepts and Approaches.” *Annual Review of Applied Statistics* 2017. 4:5.1-5.24.

Molfino, E.; **G. Korkmaz**; A. Schroeder; S. Keller; S. Shipp; & Weinberg, D. H. (2016). “Can Administrative Housing Data Replace Survey Data?” *Cityscape: A Journal of Policy Development and Research*. 9:1. pp. 265-292.

Pires, B.; J. Goldstein; D. Higdon; S. Reese; P. Sabin; **G. Korkmaz** et al. (2017). "A Bayesian Simulation Approach for Supply Chain Synchronization." In *Proceedings of Winter Simulation Conference (WSC)*

**Korkmaz, G.;** C.J. Kuhlman; & F. Vega-Redondo. (2016). “Can Social Contagion Spread Without Key Players?” In *Proceedings of the 2016 IEEE International Conference on Behavioral, Economic and Socio-cultural Computing (BESC’ 16)*, Durham, NC, USA, 2016, pp. 1-6.

**Korkmaz, G.**; J. Cadena; C.J. Kuhlman; A. Marathe; A.Vullikanti; & N. Ramakrishnan. (2016). “Multi-Source Models for Civil-Unrest Forecasting.” *Social Network Analysis and Mining (SNAM). 6:50.*

**Korkmaz, G.**; C.J. Kuhlman; S. S. Ravi; & F. Vega-Redondo. (2016). “Approximate Contagion Model of Common Knowledge on Facebook." In *Proceedings of the 27th ACM Conference on Hypertext and Social Media (HT' 16).* ACM, New York, NY, USA, 231-236.

Ziemer, K. and **G. Korkmaz**. (2016). “Human vs. Automated Text Analysis: Estimating Positive and Negative Mood.” In *Proceedings of the 27th ACM Conference on Hypertext and Social Media (HT' 16).* ACM, New York, NY, USA, 309-314.

**Korkmaz, G.**; J. Cadena; C. Kuhlman; A. Marathe; A.Vullikanti; & N. Ramakrishnan. (2015). “Combining Heterogeneous Online Data for Civil-Unrest Forecasting.” In *Proceedings of the 2015 IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)*.

Cadena, J.; **G. Korkmaz**; C. Kuhlman; A. Marathe; N. Ramakrishnan; & A. Vullikanti. (2015). "Forecasting Social Unrest Using Activity Cascades." *PLoS ONE* 10(6): e0128879.

Pires, B., **G. Korkmaz**, K. Ensor et al. (2015). "Towards an *in silico*Experimental Platform for Air Quality: Houston, TX as a Case Study." Computational Social Science Society of the Americas Conference. Santa Fe. New Mexico; 2015.

Abdelhamid, S.; C. J. Kuhlman; **G. Korkmaz**; M. Marathe; & SS. Ravi. (2015). “EDISON: A Web Application for Computational Health Informatics at Scale.” In *Proceedings of the 6th ACM Conference on Bioinformatics, Computational Biology and Health Informatics, pp. 413-422.*

**Korkmaz, G.**; C. J. Kuhlman; A. Marathe; M. V. Marathe; & F. Vega-Redondo. (2014). “Collective Action through Common Knowledge Using a Facebook Model.” In *Proceedings of the 2014 ACM International Conference on Autonomous Agents and Multi-agent Systems, pp. 253-260.*

Ramakrishnan, N.; P. Butler; S. Muthiah; N. Self; R. Khandpur; P. Saraf; W. Wang; J. Cadena; A. Vullikanti; **G. Korkmaz**, et al. (2014). “’Beating the News’ with EMBERS: Forecasting Civil Unrest using Open Source Indicators.” In *Proceedings of the 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, New York, 2014.*

Keneshloo, Y.; J. Cadena; **G. Korkmaz**; & N. Ramakrishnan. (2014). “Detecting and Forecasting Domestic Political Crises: A Graph-based Approach.” In *Proceedings of the 2014 ACM Conference on Web Science, Bloomington, 2014*.

# Current Research Support

“EAGER: Improving the Quality and Reducing the Burden of Producing and Reusing Publicly Accessible Research Data.” PI: Nusser, S. (Iowa State University)

**Role: Co-Principal Investigator**

Period: Aug 2020 – Jan 2022

Funding Agency: National Science Foundation

Amount Awarded: $135,000

“Use of Statistical and Survey Methodology Research to Improve or Redesign Surveys.”PI: Keller, S. (University of Virginia)

**Role: Co-Principal Investigator**

Period: Jun 2020 – May 2022

Funding Agency: National Science Foundation

Amount Awarded: $1,500,000

“The Dynamics of Common Knowledge on Social Networks: An Experimental Approach.”

**Role: Principal Investigator**

Period: Oct 2017 – Sep. 2022

Funding Agency: Air Force Office of Scientific Research, U.S. Department of Defense (DoD)

Program: Minerva Research Initiative

Amount Awarded: $2,083,915

“Homo SocioNeticus: Scaling the Cognitive Foundations of Online Social Behavior*.*” PI: Orr, M. (University of Virginia)

**Role: Co-Principal Investigator**

Period: Oct 2017 – Sep. 2021

Funding Agency: Defense Advanced Research Projects Agency (DARPA)

Program: SocialSim: Computational Simulation of Online Social

Amount Awarded: $6,725,458

“National Science Foundation (NSF) Use of Statistical and Survey Methodology Research to Improve or Redesign Surveys.” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Apr. 2016 – Apr. 2021

Funding Agency: U.S. Department of Agriculture (USDA)

Amount Awarded: $2,500,000

“FACT: Three-State Data Science for the Public good Coordinated Innovation Network.” PI: Keller, S.

**Role: Co-Principal Investigator**

Period Apr. 2019 – Mar. 2021

Funding Agency: U.S. Department of Agriculture

Amount Awarded: $999,973

“Towards A National Community Learning Network.” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Oct. 2019 – Sept. 2021

Funding Agency:: Bill & Melinda Gates Foundation

Amount Awarded: $1.8M

“The American Soldier in World War II.” PI: Gitre, E. (Virginia Tech)

**Role: Co-Principal Investigator**

Period: May 2019 – Apr. 2021

Funding Agency: National Endowment for the Humanities

Amount Awarded: $60,971

# Prior Research Support

“*The Social Component of the Human Dimension: Leveraging Existing Department of Defense (DoD) Data Towards Optimized Individual and Team Performance*.” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Sep 2017 – Sep. 2022

Funding Agency: Army Research Institute (ARI) for the Behavioral and Social Sciences

Amount Awarded: $3,027,401

“*Montage: Capturing Collective Behavior with Modeling and Experimentation.*” PI: Ramakrishnan, N. (Virginia Tech)

**Role: Co-Principal Investigator**

Period: Oct. 2016 – Sep. 2018

Funding Agency: Defense Advanced Research Projects Agency (DARPA) (Department of the Interior (DOI)) Program: Next Generation Social Science (NGS2)

Amount Awarded: $3,000,000

“*Towards an Integrated Data Framework for Understanding the Context of Military Environments*.” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Jun. 2015 – Jun. 2018

Funding Agency: Army Research Institute (ARI) for the Behavioral and Social Sciences

Amount Awarded: $1,691,337

“Measuring the Impact of Alcohol-Related Crime Reduction Strategies for Restaurants and Nightlife in Arlington.” PI: Zhang, W. (Virginia Tech)

**Role: Co-Principal Investigator**

Period: Mar. 2018 – Dec. 2018

Funder: Virginia Tech Center for Peace Studies and Violence Prevention (CPSVP)

Amount Awarded: $7,000

“*Feasibility and Efficacy of Matching Public Records with Sample Surveys.*” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Dec. 2015 – May 2017

Funding Agency: US Census Bureau, and Housing and Urban Development (HUD).

Amount Awarded: $575,000

“*Bringing Evidence-Based Decision Making to Local Communities through Community Learning.*” PI: Keller, S.

**Role: Co-Principal Investigator**

Period: Aug. 2016 – Nov. 2016

Funding Agency: Laura & John Arnold Foundation

Amount Awarded: $144,000

“*Diverse Undergraduate Research Experiences in Statistics.*” PI: Keller, S.

Period: May – Aug. 2016

Funding Agency: American Statistical Association (National Science Foundation (NSF))

Amount Awarded: $38,666

“*Initiative Launch Inventory Analytics for Beauty Care.*” PI: Higdon, D.

**Role: Co-Principal Investigator**

Period: Apr. 2015 – Mar. 2016

Funding Agency: Procter & Gamble

Amount Awarded: $125,000

“P&G *Sankey Visualization for United Kingdom & North America (NA) Shipments.*” PI: Korkmaz, G**.**

**Role: Principal Investigator**

Period: Aug. 2014 – Dec. 2014

Funding Agency: Procter & Gamble

Amount Awarded: $50,000

“A Pilot Study to Establish Data Use and Quality Standards for Using New Sources of Structured and Unstructured Data.” PI: Keller, S.

**Role: Key personnel**

Period: May 2015 – Jan. 2016

Funding Agency: MITRE (US Census Bureau)

Amount Awarded: $578,499

“*End-to-End Digitization and Supply Chain Modeling Framework.*” PI: Shipp, S.

**Role: Key personnel**

Period: Jul. 2014 – Feb. 2016

Funding Agency: Procter & Gamble

Amount Awarded: $525,000

“*Early Model-Based Event Recognition Using Surrogates.*” PI: Ramakrishnan, N.

**Role: Postdoctoral Fellow**

Period: Apr. 2012 – Feb. 2014

Funding Agency: Intelligence Advanced Research Projects Activity (IARPA)

Program: Open Source Indicators (OSI)

Total Amount Awarded: $16,314,976

“NetSE: Large: Collaborative Research: Contagion in Large Socio-Communication Networks.” PI: Marathe, M.

**Role: Postdoctoral Fellow**

Period: Jul. 2012 – Feb. 2014

Funding Agency: National Science Foundation (NSF)

Total Amount Awarded: $2,998,238

“*EU Profiler: The First Europe-wide Voting Advice Application for 2009 European Parliamentary Elections.*” PI: Trechsel, Alexander H. Department of Political and Social Sciences, European University Institute.

**Role: Graduate Research Assistant** & Country Team Leader for Turkey

Period: Sep. 2008 – Jun. 2009

Funding Agency: European Union Democracy Observatory (EUDO), consortium with Kieskompas and the NCCR Democracy (University of Zurich/ Zentrum für Demokratie Aarau)/Politools network.

# Intellectual Property

Volume-Based Model for Protest Forecasting. Disclosure Date: 10/26/2016. IP Disclosure: VTIP 17-041. Inventors: **G. Korkmaz**; J. Cadena; A. Kumar Vullikanti; A. Marathe; N. Ramakrishnan; VTIP Manager: Mike Miller, Virginia Tech.

Social Media Activity and Recruitment Based Model for Protest Forecasting. Disclosure Date: 10/26/2016. IP Disclosure: VTIP 17-042. Inventors:  J. Cadena; **G. Korkmaz**; A. Kumar Vullikanti; A. Marathe; N. Ramakrishnan; VTIP Manager: Mike Miller.

Civil Unrest Vocabulary. Disclosure Date: 10/26/2016. IP Disclosure: VTIP 17-043. Inventors:  D. Mares; **G. Korkmaz**; N. Ramakrishnan; S. Muthiah; VTIP Manager: Mike Miller, Virginia Tech.

# Conference Presentations & Invited Talks

Creating Data for Good (D4G) Programs: Roadmap and Research Highlights:

* Chair and co-organizer of the invited session, Social Statistics Section of the American Statistical Association, 2021 Joint Statistical Meetings, Seattle, Aug. 2021.

The Scope and Impact of Open Source Software Innovation on GitHub:

* Invited talk at the Harvard Business School Digital Initiative Seminar Series, Nov. 4, 2020.

Detecting Pharmaceutical Innovations in News Articles and Financial Filings

* Government Advances in Statistical Programming 2020 Workshop, Nov. 2020.
* National Institute of Health [Bibliometrics and Research Assessment Symposium](https://www.nihlibrary.nih.gov/services/bibliometrics/bibSymp20), Oct. 2020.

The Dynamics of Common Knowledge on Social Networks: An Experimental Approach:

* U.S. Air Force Office of Scientific Research Annual Trust and Influence Portfolio Review, Aug. 2020.

The Scope and Impact of Open Source Software as Intangible Capital: A Framework for Measurement with an Application Based on the Use of R Packages

* [National Bureau of Economic Research Conference on Research in Income and Wealth (CRIW) Conference: Big Data for 21st Century Economic Statistics](https://conference.nber.org/sched/CRIWs19), Bethesda, MD, Mar. 15-16, 2019 (with C. Robbins (NSF)). [Link](https://conference.nber.org/conf_papers/f111802.pdf) to the paper.

An Experimental Study of Common Knowledge on Social Networks:

* Fifth Annual NSF Conference on Network Science in Economics, Indiana University Bloomington, Apr. 26-28, 2019.

Modeling the Impact of R & Python Packages: Dependency and Contributor Networks

* [2019 Women in Data Science Conference](https://datascience.virginia.edu/pages/2019-women-data-science-charlottesville-conference), Charlottesville, Mar. 29, 2019.

Social Network Experiments on Common Knowledge and Coordination:

* [2nd North American Social Network (NASN) Conference](http://nasn2018.insna.org/), Washington D.C., Nov. 30, 2018

Open Source Software as Intangible Capital: Measuring the Cost and Impact of Free Digital Tools

* [International Monetary Fund (IMF) Statistical Forum on Measuring Economic Welfare in the Digital Age: What and How?](https://www.imf.org/en/News/Seminars/Conferences/2018/04/06/6th-statistics-forum) Washington D.C., Nov. 19-20, 2018 (with C. Robbins (NSF)).

The Effect of Homophily on Common Knowledge and Coordination on Facebook:

* [IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM)](http://asonam.cpsc.ucalgary.ca/2018/AcceptedPapers.php), Barcelona, Spain, Aug. 2018.

Modeling the Impact of R Packages Using Dependency and Contributor Networks:

* IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM), Barcelona, Spain, Aug. 2018.

Link Prediction in the Criminal Network of Albuquerque:

* IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM), Barcelona, Spain, Aug. 2018.

Illuminating the Scope and Impact of Open Source Software: A Framework for Measurement with an Application Based on the Use of R Packages:

* [International Association for Research in Income and Wealth (IARIW) 35th General Conference: Innovation and the Digital Economy](http://www.iariw.org/c2018copenhagen.php), Copenhagen, Denmark, Aug. 20-25, 2018 (with C. Robbins (NSF)).
* [National Bureau of Economic Research Conference on Research in Income and Wealth (CRIW) Pre-Conference](https://conference.nber.org/sched/CRIWpre18): Big Data for 21st Century Economic Statistics, Cambridge, MA, July 18, 2018 (with C. Robbins (NSF)).

Coordination and Collective Action on Communication Networks:

* [17th ACM International Conference on Autonomous Agents and Multi-agent Systems (AAMAS)](http://celweb.vuse.vanderbilt.edu/aamas18/home/), Stockholm, Sweden, Jul. 10 – 15, 2018.

Creativity in Data Science and Workforce Development in Arlington:

* Invited Speaker at the Seminar Series ‘[Return on Creativity: An Arlington Asset](https://www.arlingtoneconomicdevelopment.com/resources/events-calendar/return-on-creativity-an-arlington-county-asset/?lv=1),’ by Arlington Economic Development, the Creative Economy Initiative and Arlington Cultural Affairs, Arlington, VA, Apr. 26, 2018.

Coordination and Common Knowledge in Online Social Network Experiments:

* [Fourth Annual Conference on Network Science and Economics](https://www.coalitiontheory.net/content/fourth-annual-conference-network-science-and-economics), Department of Economics, Vanderbilt University, Nashville, TN, Apr. 13-15, 2018.

Applications of Emergency Management Analytics in Arlington County:

* Invited Seminar at the Department of Agriculture and Applied Economics, Virginia Tech, Blacksburg, VA, Feb. 21, 2018.

The Dynamics of Common Knowledge on Social Networks: An Experimental Approach:

* Invited Poster at the 2018 Biocomplexity Research Showcase, Blacksburg, VA, Jan. 31, 2018.

Measuring the Scope and Impact of Open Source Software:

* Briefing at the National Science Foundation, Arlington, VA, May 31, 2017 (with C. Robbins, NSF).
* Poster presented at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 8, 2017; at the Data Science for the Public Good Symposium, Arlington VA, Jul, 2017 (with C. Robbins (NSF), C. Kelling (PSU), S. Phadke (PSU), S. Shipp (VT)).

Modeling the Impact of Open Source Software: A Study of R Packages:

* Poster presented at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 8, 2017; at the Data Science for the Public Good Symposium, Arlington VA, Jul, 2017 (with C. Robbins (NSF), C. Kelling (PSU), S. Shipp (VT)).

The Use of Multiple Data Sources to Predict Residential Smoke Detector Need:

* Scholarship recipient and poster presenter at the 33rd National Association of Business Economists (NABE) Economic Policy Conference, Washington D.C., March 5-7, 2017.

Building Resilient Communities: Harnessing the Power of Data:

* Federal Reserve Board, Division of Consumer and Community Affairs Research Seminar, Washington D.C., February 23, 2017 (with Sallie Keller and Stephanie Shipp).

The Dynamics of Coordination, Common Knowledge and Collective Action on Social Networks:

* Virginia Tech National Capital Region Faculty Association Outstanding New Faculty Lecture, Arlington, VA, Dec. 2016.

Collective Action and Common Knowledge: A Facebook Model:

* Invited Seminar at the Department of Economics, Virginia Tech, Blacksburg, VA, Feb. 2016.
* 13th International Conference in Autonomous Agents and Multiagent Systems (AAMAS), Paris, France, May 2014.
* III Workshop on “The Economics of Coordination and Communication.” Ravello, Italy, Jun. 2012.
* Virginia Bioinformatics Institute Research Symposium, Virginia Tech, Blacksburg, Mar. 2012.
* Sunbelt XXXII: Social Network Analysis Conference, Redondo Beach, California, Mar. 2012.

Coordination and Collective Action in Online Social Network Experiments:

* The 2016 Annual Meeting of the American Economic Association, San Francisco, Jan. 2016.

## Sharing Economy and Financial Inclusion:

## Invited Speaker at Virginia Tech Roundtable on Financial Inclusion and Digital Platforms, Arlington, VA, Mar. 2016.

Leveraging External Data Sources to Enhance Official Statistics and Products:

* Briefing at the U.S. Census Bureau, Washington, D.C., Dec. 2015 (with Sallie Keller, Stephanie Shipp and Daniel H. Weinberg).

The All Data Revolution as a New Resource to Improve 911 Response:

* International Symposium on Next Generation Infrastructure, Washington D.C., Sep. 2015 (with Emily Molfino).
* Virginia Bioinformatics Institute Research Symposium, Virginia Tech, Blacksburg, Apr. 2015.

Towards an in silico Experimental Platform for Air Quality: Houston, TX as a Case Study:

* International Symposium on Next Generation Infrastructure, Washington D.C., Sep. 2015 (with Bianica Pires).

Combining Heterogeneous Online Data for Civil-Unrest Forecasting:

* IEEE/ACM International Conference on Advances in Social Network Analysis and Mining (ASONAM), Paris, France, Aug. 2015.
* Invited Speaker at the Workshop on Big Data for Social Policy, Fields Institute, Toronto, Canada, Apr. 2015.

Challenges of Twitter-based Predictions of Civil Unrest in Latin America:

* Invited Speaker at the NSF-CDI (Cyber-Enabled Discovery and Innovation) Project - Specialist Meeting - Human Dynamics in the Mobile Age: New Frontiers of Knowledge Discovery in Cyberspace and Big Data, San Diego, California, Aug. 2014.
* Virginia Bioinformatics Institute Research Symposium, Virginia Tech, Blacksburg, Mar. 2013.

R&D Collaboration in Collusive Networks:

* 28th Annual Congress of the European Economic Association, Gothenburg, Aug. 2013.
* Games 2012 - The 4th World Congress of the Game Theory Society, Istanbul, Jul. 2012.
* Invited Speaker at “Networks and Institutions,” Bilkent Economics Annual Summer Workshop, Ankara, Turkey, Jul. 2012.
* Sunbelt XXXII: Social Network Analysis Conference, California, Mar. 2012.
* XXXVI Symposium of Spanish Economic Association, Malaga, Dec. 2011.
* Governance, Market Structure, Networks and Innovation Conference, Univ. of Greenwich, London, Sep. 2011.
* 6th CLEEN (Competition Law and Economics European Network) Workshop, EUI, May 2012.
* UECE Lisbon Meetings: Game Theory and Applications, Lisbon, Portugal, Nov 2010.
* Invited Seminar at the Department of Economics, Public University of Navarra, Pamplona, Spain, Nov. 2010.
* Annual Meeting of the Association of Southern European Economic Theorists (ASSET), University of Alicante, Spain, Oct. 2010.

Congestion in R&D Collaboration Networks:

* 7th UK Social Network Conference, University of Greenwich, London, Jul. 2011.

On the Accountability of Independent Regulatory Agencies:

* Annual Meeting of ASSET, Boğaziçi University, Istanbul, Turkey, Oct. 2009.

# Other Contributions

The Scope and Impact of Open Source Software as Intangible Capital: A Framework for Measurement with an Application Based on the use of R Packages

* Federal Committee on Statistical Methodology (FCSM) 2020 Research and Policy Conference, *accepted*, Washington D.C., April 2020. (*with Bayoán Santiago Calderon and B. Kramer)*
* [Government Advances in Statistical Programming (GASP) 2019](http://www.washstat.org/presentations/), Bureau of Labor Statistics, Washington D.C., Sept. 23, 2019 (*with Bayoán Santiago Calderon (UVA) and C. Robbins (NSF))*

An Experimental Study of Common Knowledge on Social Networks:

* Poster Presented by T. Pristavec (UVA) at the Norms and Behavioral Change Workshop, University of Pennsylvania, Oct. 17-18, 2019.

A Study of Spatial Misalignment with an Application to Urban Crime Misalignment with an Application to Urban Crime:

* Presented by C. Kelling, at the Joint Statistical Meetings, Denver, Colorado, Jul. 2019.

New Opportunities to Observe and Measure Innovation, Modeling, Infrastructure, and Standards:

* Presented by C. Robbins (NSF) at the Interagency Council on Statistical Policy (ICSP) Big Data Day, Committee on National Statistics (CNSTAT), Washington, DC, May 10-11, 2018.

Measuring Innovation and Innovation Activities in New Ways Using Non-Traditional Data Sources:

* Presented by S. Shipp (VT) at the Federal Committee on Statistical Methodology (FCSM) 2018 Research and Policy Conference, Washington DC, March 8, 2018.

Modeling, Infrastructures, and Standards: Enabling New Opportunities to Observe and Measure:

* Presented by S. Keller (VT) at the Arthur M. Sackler Colloquia of Sciences: Modeling and Visualizing Science and Technology Developments, Irvine, CA, December 4-5, 2017.

Combining Geographic and Social Proximity to Model Urban Domestic and Sexual Violence:

* Presented by C. Kelling at the American Statistical Association (ASA) Women in Statistics and Data Science Conference, Cincinnati, Ohio, Oct. 2018*.*
* Poster presented by C. Kelling (PSU) at The Big Data Social Science Integrative Graduate Education and Research Traineeship (BDSS-IGERT) Research Rotation Poster Session, 2018 *(with C. Graif (PSU) and M. Haran (PSU)).*

Detecting Pharmaceutical Innovations in News Articles Using Machine Learning

* Poster presented by Q. Neville (Univ. Columbia) and R. Sawhney (VT) at the Data Science for the Public Good Symposium, Arlington, VA, Aug. 2019 *(with G. Anderson (NSF), D.Nair (UVA), and N. Kattampallil (UVA))*

Measuring the Universe of Open Source Software:

* Poster presented by C. Cong, C. Isch, and E. Tobin at the Data Science for the Public Good Symposium, Arlington, VA, Aug. 2019 *(with C. Robbins (NSF) and B. Calderon (UVA)).*

Economic and Social Impact of Arlington Restaurant Initiative

* Poster presented by V. Halewicz, K. Savchyn at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2019 *(with B. Calderon (UVA))*

Estimating the Cost of Open Source Software:

* Poster presented by M. Evans, J. Ghebremichael, and Y. Zhang at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 8, 2017 *(with C. Robbins (NSF) and S. Shipp (VT)).*

Discovering Non-Traditional Data Sources for Business Innovation:

* Poster presented by D. Wilkin at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 8, 2017; and at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2017

*(with G. Anderson (NSF) and S. Shipp (VT)).*

Modeling Response Time to Structure Fires:

* Poster presented by M. Arnsbarger at the Data Science for Social Good Conference, Chicago, IL., Sept. 2017; Data Science for the Public Good Symposium, Arlington, VA, Jul. 2017; Biocomplexity Research Symposium, Blacksburg, VA, Nov. 1, 2016 (Best Poster Award).

Characterizing Communities for Crime Rate Inference:

* Poster presented by S. Pili at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2017 *(with C. Kelling (PSU) and J. Goldstein (VT)).*

How Do Events Affect Crime?:

* Poster presented by H. Brinkley at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2017 *(with S. Phadke (PSU), C. Kelling (PSU) and J. Goldstein (VT)).*

Residential Smoke Alarm Need in Arlington County:

* Poster presented by M. Arnsbarger at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 1, 2016; and at Data Science for the Public Good Symposium, Arlington, VA, Jul. 2016 *(with S. Tyner (Iowa State), J. Goldstein (VT) and V. Lancaster (VT)).*

Evaluating Innovation of Open Source Software:

* Poster presented by J. Higgins, A. Gagliano, R. Macatula at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 1, 2016 *(with C. Robbins (NSF) and S. Shipp (VT)).*
* Poster presented by W. Sandholtz and A. Rogers at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2016 *(with C. Robbins (NSF) and S. Shipp (VT)).*

The Use of Social Media by the U.S. Army Population:

* Poster presented by R. Whitcomb, I. McCormack, and E. Baldwin at the Biocomplexity Research Symposium, Blacksburg, VA, Nov. 1, 2016.
* Poster presented by W. Sandholtz, M. Grant, and M. Almanza at the Data Science for the Public Good Symposium, Arlington, VA, Jul. 2016.

# Teaching & Mentorship

**Thesis Committee Member:**

* Claire Kelling, Department of Statistics, Penn State University, 2017 – current
* Adriana Kraig, World Politics/Behavioral Economics, Division of Politics and Economics, Claremont Graduate University, 2018

**Postdoctoral Mentorship:**

* Behnaz Moradi, Statistics, School of Data Science, University of Virginia, 2019 – current
* José Bayoán Calderón, Economics, Biocomplexity Institute, UVA, 2019 – current
* Brandon Kramer, Sociology, Biocomplexity Institute, UVA, 2019 – current
* Aritra Halder, Statistics, Biocomplexity Institute, UVA, 2020 – current
* Ian Crandell, Statistics, Biocomplexity Institute of Virginia Tech, 2017 – 2018
* Bianica Pires, Computational Social Science, Biocomplexity Institute of VT, 2017 – 2018

**Graduate Mentorship:**

* Alex Stern, (Capstone) School of Data Science, University of Virginia, 2020 – current
* Benjamin Curtis Cosgro, (Capstone) School of Data Science, UVA, 2020 – current
* Keyu Chen, (Capstone) School of Data Science, UVA, 2020 – current
* Oretha Domfeh, (Capstone) School of Data Science, UVA, 2020 – current
* Claire Kelling, Department of Statistics, Penn State University, 2017 – current
* José Bayoán Calderón, Economics, Claremont Graduate University, 2018 – 2019
* Adriana Kraig, World Politics/Behavioral Economics, Division of Politics and Economics, Claremont Graduate University, 2018
* Data Science for the Public Good Young Scholars Summer Program Graduate Fellows (UVA and VT):
* Morgan Elaine Stockham, Economics, Claremont Graduate University, 2020
* Susweta Ray, Agricultural Economics, University of Nebraska-Lincoln, 2020
* Daniel Neblett Bullock, Dept. of Psychological and Brain Sciences, Indiana University, 2020
* Mary Solomon, Mathematics and Statistics, Bowling Green State University, 2020
* Madeline Claire Pickens, McCourt School of Public Policy, Georgetown University, 2020
* Finn Axel Roberts, Biostatistics, University of Minnesota, 2020
* Lara Louise Haase, Public Policy and Management & Data Analytics, Heinz College, 2020
* Quinton Neville, Biostatistics, Columbia University, 2019
* Kateryna Savchyn, Mathematics and Statistics, Georgetown University, 2019
* Cong Cong, Urban and Regional Planning, University of Illinois at Urbana-Champaign, 2019
* Allegra Pocinki, Sociology, Rutgers University, 2019
* Alyssa Fowers, Dept. of Educational and Psychological Studies, University of Miami, 2019
* José Bayoán Santiago Calderón, Dept. of Economics, Claremont Graduate University, 2018
* Daniel Liden, Dept. of Statistics, Minnesota Twin Cities, 2018
* Davon Woodard, Urban Planning, Virginia Tech, 2018
* Devika Nair, Data Analytics, American University, 2018
* Fanfang Lee, Dept. of Statistics, New York University, 2018
* Claire Kelling, Dept. of Statistics, Penn State University, 2017
* Sayali Phadke, Dept. of Statistics, Penn State University, 2017
* Zharni Htet, Applied Statistics, New York University, 2017
* Lata Kodali, Dept. of Statistics, Virginia Tech, 2017
* Samantha Tyner, Dept. of Statistics, Iowa State University, 2016
* Millicent Grant, Dept. of Statistics, Iowa State University, 2016

**Undergraduate Mentorship:**  
- University of Virginia Data Science for the Public Good Research Fellowship:

* Sarah McDonald, Economics, Marymount University (Fall 2020)
* Chase Dawson, Computer Science University of Virginia (Fall 2020)
* Martha Czernuszenko, Information Systems, University of Texas at Austin (Fall 2020)
* Calvin Isch, Cognitive Science, Indiana University (Fall 2019)
* Eliza Tobin, Leadership and Public Policy, University of Virginia (Fall 2019)
* Raghav Sawhney, Computational Modelling and Data Analytics, Virginia Tech (Fall 2018)
* University of Virginia Data Science for the Public Good Young Scholars Summer Program:
* Sarah McDonald, Economics, Marymount University, 2019 & 2020
* Sean Pietrowicz, Applied and Computational Math. and Stat., Univ. Notre Dame, 2019 & 2020
* Chase Dawson, Computer Science University of Virginia, 2020
* Saimun Habib, Statitistics, Harvard College, 2020
* Owen Hart, Economics & Data Science, University of California, Berkeley, 2020
* Martha Czernuszenko, Information Systems, University of Texas at Austin, 2020
* Crystal Zhang, Math., Stat. & Data Science, Smith College, 2020
* Ian Macleod, Computer Science, University of Mary Washington, 2020
* Calvin Isch, Cognitive Science, Indiana University, 2019
* Eliza Tobin, Leadership and Public Policy, University of Virginia, 2019
* Raghav Sawhney, Computational Modelling and Data Analytics, Virginia Tech, 2019
* Victoria Halewicz, Psychology, University of Illinois at Urbana-Champaign, 2019
* Jessica Keast, Statistical and Data Sciences, Smith College, 2019

- Virginia Tech Computational Modelling and Data Analytics (CMDA) Capstone:

* Snigdha Sangisetti, Matt Grace, and Yiyang Fan (Fall 2020)
* Cameron Bissel, Ieuan Israel, and Xiangyu Zhang (Fall 2019)
* Matthew Evans, Joey Ghebremichael, Yusheng Zhang (Fall 2017)
* John Higgins, Alex Cagliano, Romcholo Macatula, Ian McCormack, Ryan Whitcomb, and Emma Baldwin (Fall 2016)
* Virginia Tech Biocomplexity Institute Research Experience for Undergraduates Fellowship:
* Eirik Iversen, Computational Modelling and Data Analytics, VT (Fall 2017 & Spring 2018)
* Raghav Sawhney, Computational Modelling and Data Analytics, VT(Fall 2017 & Spring 2018)
* Matthew Evans, Computational Modelling and Data Analytics, VT (Spring 2018)
* Daniel Wilkin, Biological Systems Engineering, VT (Fall 2017 & Spring 2018)
* John Higgins, Computational Modelling and Data Analytics, VT (Spring 2017)
* Alex Cagliano, Computational Modelling and Data Analytics, VT (Spring 2017)
* Romcholo Macatula, Computational Modelling and Data Analytics, VT (Spring 2017)
* Madison Arnsbarger, Department of Economics, VT (2016 – 2017)

Instructor & Mentor (Summer I-II, 2017 & 2018): Virginia Tech Data Science for the Public Good Student Program (25 VT students) Courses:

* + VT Honors College UH 4504: Honors Discovery and Innovation Studio (6 credits)
  + VT Honors College UH 4994: Honors Undergraduate Research (6 credits)
* Virginia Tech Data Science for the Public Good Summer Program (2015 – 2016) :
* William Sandholtz, B.A., Dept. of Economics and Statistics, UC Berkeley, 2016
* Jessica Flynn, Biological Statistics and Computational Biology, Cornell University, 2016
* William Sandholtz, Economics, UC Berkeley, 2016
* Emily Stark, Mathematics and Statistics, Austin Peay State University, 2016
* Mark Almanza, Physics, Virginia Tech, 2016
* Adrienne Rogers, Statistics and Sociology, Virginia Tech, 2015 & 2016
* Paul Sabin, Statistics, Virginia Tech, 2015
* Kyle Angelotti, Computer Science and Foreign Affairs, University of Virginia, 2015
* Stephanie Allen, Economics & Mathematics, SUNY, 2015
* Berk Norman, Computational/Applied Math & Statistics, Rice University, 2015

Lecturer (Spring 2013):

* Biocomplexity Institute of Virginia Tech Network Dynamics Simulation and Science Laboratory, Short course, Ph.D. Level: Game Theory and Applications in Network Science

Graduate Teaching Assistant:

- European University Institute, Ph.D. Level: Complex Social Networks (Spring 2009),

- European University Institute, Ph.D. Level: Microeconomics I (Fall 2008)

- Boğaziçi University (Sep. 2005 – Aug. 2007): Microeconomics I-II, Game Theory, Contract Theory, Public Economics I-II, Development Economics

Undergraduate Teaching Assistant:

- Department of Economics, Boğaziçi University: Game Theory (Spring 2005)

- Department of Economics, Boğaziçi University: Mathematics for Economics (Fall 2003)

# Professional Service

* Chair and co-organizer, Invited Session, 2021 Joint Statistical Meetings Social Statistics Section
* Expert Reviewer for the US National Science Foundation Economics Program (2020)
* Associate Editor of the Research Policy and Strategic Management Journal
* College of Expert Reviewers of the European Science Foundation
* Review Editor on the Editorial Board of Data Analytics for Social Impact (specialty section of Frontiers in Big Data) (2020)
* Expert Reviewer for the European Science Foundation (Junior and Senior Postdoctoral Fellowship 2019 Call)
* Organizing Committee Member (Ph.D. Track Co-Chair) of the IEEE/ACM International Conference on Social Network Analysis and Mining (ASONAM)
* Program Committee Member of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
* Program Committee Member of the Winter Simulation Conference
* Program Committee Member of the Computational Social Science Society of the Americas Annual Conference
* Referee for Peer-Reviewed Journals and Conferences: Network Science; Proceedings B; Research Policy; Social Network Analysis and Mining; EPJ Data Science; Trends in Cognitive Sciences; International Conference on Autonomous Agents and Multiagent Systems (AAMAS); Winter Simulation Conference; Computational Social Science Society of the Americas Annual Conference; Academy of Management Annual Meeting Organization and Management Theory Division; Review of Network Economics; Social Computing, Behavioral-Cultural Modelling and Prediction; Southern Economic Journal; Journal of the Royal Society Interface
* Scientific Committee Member of the International Congress on Child and Information Safety: Digital Games
* American Association for the Advancement of Science (AAAS) Annual Meeting Poster Judge for Social Sciences
* American Statistical Association (ASA) Volunteer at the U.S. Science and Engineering Festival
* Judge at the Northern Virginia Regional Science and Engineering Fair

# University Service

2018 – current Data Science for the Public Good Young Scholars Student Program Co-Director, University of Virginia

2018 – current Postdoctoral Fellow Coordinator, Social and Decision Analytics Division Biocomplexity Institute & Initiative, University of Virginia

2018 – current Graduate and Undergraduate Student Manager, Social and Decision Analytics Division Biocomplexity Institute & Initiative, University of Virginia

2017 – 2018 Biocomplexity Institute Mission, Vision, Values Award Committee Member

2017 – 2018 Biocomplexity Institute Research Seminar Program Committee Member

2016 – 2018 Virginia Tech “Data Science for the Public Good” Student Program Co-Director

2014 – 2018 Seminar Chair, Biocomplexity Institute of Virginia Tech

2014 – 2018 Selected Ambassador of European University Institute

2013 – 2014 Graduate Seminar Co-organizer, NDSSL, Biocomplexity Institute of Virginia Tech

2009 – 2010 Elected Student Representative, European University Institute

2009 – 2010 Student Admission Committee (Ph.D.), European University Institute

2008 – 2011 Graduate Microeconomics Seminar Co-organizer, European University Institute

# Professional Memberships

American Statistical Association (2014-present); American Economic Association (2012-present); European Economic Association (2012-present); Game Theory Society (2012-present); International Network for Social Network Analysis (2010-present)

# Further Skills

Languages: Turkish (native), English (fluent), Italian (intermediate), German (basic)

Software & Programming: R, Mathematica, Stata, LaTeX, NetLogo, Pajek, Gephi, Python

Certificates: Teaching Skills Certificate (European University Institute, Sept. 2010)

# Clearance Information

Common Access Card (CAC), Affiliation: Contractor; Agency/Department: US Army