

Jay Simon

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Information Technology and Analytics
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Previous Positions

2015-2018: Assistant Professor of Information Technology and Analytics, Kogod School of Business, American University.

2009-2015: Assistant Professor of Decision Science, Defense Resources Management Institute, Graduate School of Business & Public Policy, Naval Postgraduate School.

2005-2009: Instructor, Research Assistant, and Teaching Assistant, University of California, Irvine.

2004-2005: Quantitative Analyst, Prostate Cancer Decision Analyst (PCaDA).

Education

Ph.D.: Operations and Decision Technologies. Paul Merage School of Business, University of California, Irvine, 2009.

M.S.: Management Science and Engineering, Stanford University, 2004.

B.S.: Mathematical and Computational Science, Stanford University, 2003.

Peer-Reviewed Publications

Simon, J., Saari, D., & Keller, L. R. (2020). Interdependent Altruistic Preference Models. *Decision Analysis* **17**(3) 189-207.

Simon, J. (2020). Weight Approximation for Spatial Outcomes. *Sustainability* **12**(14) 5588.

Simon, J., & Omar, A. (2020). Cybersecurity Investments in the Supply Chain: Coordination and a Strategic Attacker. *European Journal of Operational Research* **282**(1) 161-171.

- Keller, L. R., & Simon, J. (2019). Preference Functions for Spatial Risk Analysis. *Risk Analysis* **39**(1) 244-256.
- Simon, J., Apte, A., & Regnier, E. (2017). An Application of the Multiple Knapsack Problem: The Self-Sufficient Marine. *European Journal of Operational Research* **256**(3) 868-876.
- Apte, A., Khawam, J., Regnier, E., & Simon, J. (2016). Complexity and Self-Sustainment in Disaster Response Supply Chains. *Decision Sciences* **47**(6) 998-1015.
- Simon, J. (2016). On the Existence of Altruistic Value and Utility Functions. *Theory and Decision* **81**(3) 371-391.
- Huynh, C., & Simon, J. (2016). Using Means Objectives to Present Risk Information. *Decision Analysis* **13**(2) 117-127.
- Huynh, C., L. R. Keller, & Simon, J. (2016). Decision Technologies. In G. Keren & G. Wu (Eds.), *Wiley-Blackwell Handbook of Judgment and Decision Making*.
- Regnier, E., Simon, J., Nussbaum, D., & Whitney, L. (2015). The Fuel Multiplier in Multi-Stage Supply Chains. *Journal of Defense Modeling and Simulation* **12**(1) 5-17.
- Simon, J., Kirkwood, C. W., & Keller, L. R. (2014). Decision Analysis with Geographically Varying Outcomes: Preference Models and Illustrative Applications. *Operations Research* **62**(1) 182-194.
- Simon, J., Regnier, E., & Whitney, L. (2014). A Value-Focused Approach to Energy Transformation in the United States Department of Defense. *Decision Analysis* **11**(2) 117-132.
- Lipow, J., & Simon, J. (2014). Attitude, Aptitude, and Testing in the Efficient Mobilization of Military Manpower. *Defence and Peace Economics* **25**(2) 113-124.
- Lipow, J., & Simon, J. (2014). Probability Segmenting and the Social Cost of Draft Evasion. *Economics Bulletin* **34**(1) 307-312.
- Simon, J., & Melese, F. (2011). A Multiattribute Sealed-Bid Procurement Auction with Multiple Budgets for Government Vendor Selection. *Decision Analysis* **8**(3) 170-179.
- Guyse, J. L., & Simon, J. (2011). Consistency Among Elicitation Techniques for Intertemporal Choice: A Within-Subjects Investigation of the Anomalies. *Decision Analysis* **8**(3) 233-246.

- Lipow, J., & Simon, J. (2011). Military Reserves and Social Welfare. *Economics Letters* **113**(3) 208-210.
- Wang, Y., Keller, L. R., & Simon, J. (2011). Descriptive Models of Perceived Risk. In J. J. Cochran (Ed.), *Wiley Encyclopedia of Operations Research and Management Science*. Hoboken, NJ: Wiley.
- Simon, J., Wang, Y., & Keller, L. R. (2010). Paradoxes and Empirical Violations of Normative Decision Theory. In J. J. Cochran (Ed.), *Wiley Encyclopedia of Operations Research and Management Science*. Hoboken, NJ: Wiley.
- Simon, J. (2009). Decision Making with Prostate Cancer: A Multiple-Objective Model with Uncertainty. *Interfaces* **39**(3) 218-227.
- Keller, L. R., Simon, J., & Wang, Y. (2009). Multiple Objective Decision Making with Multiple Stakeholders. *TutORials in Operations Research* 139-155.

Manuscripts Under Review

Keller, L. R. & Simon, J. Key Points for Communicating Clearly About Risk.

Research in Progress

Simon, J., & Wang, Y. Nash Bargaining Problems with Altruistic Individuals.

Regnier, E., & Simon, J. Estimating Multi-Commodity Demands of Self-Sustaining Supply Networks.

Simon, J. Procurement Auctions with Uncertain Buyer Preferences.

Cakici, O. E., Karaesman, I., & Simon, J. Selling to the Coupon Collector.

Other Publications

Whitney, L., Regnier, E., & Simon, J. (2013). Energy Objectives for the United States Department of Defense. *Technical Report*. Office of Naval Research. Arlington, VA.

Regnier, E., Simon, J., Nussbaum, D., Apte, A. & Khawam, J. (2013). Fully-Burdened Cost of Supply in Self-Sustaining Logistics Networks. *Proceedings of the Tenth*

Annual Acquisition Research Symposium Volume II. Monterey, CA. NPS-LM-13-C10P05R01-059.

Apte, A., Khawam, J., Regnier, E., Simon, J., & Nussbaum, D. (2013). Issues and Challenges in Self-Sustaining Response Supply Chains. *Proceedings of the Tenth Annual Acquisition Research Symposium Volume II*. Monterey, CA. NPS-LM-13-C10P05R06-064.

Regnier, E., Simon, J. & Nussbaum, D. (2012). Estimating Logistics Burdens in Support of Acquisition Decisions. *Proceedings of the Ninth Annual Acquisition Research Symposium Volume II*. Monterey, CA. NPS-AM-12-C9P24R01-091.

Feng, T., Jones, N. S., Kessel, L., Simon, J., Keller, L. R., & Kirkwood, C. (2007). Survey of Key Stakeholder Evaluation Concerns and Tradeoffs for Central Arizona Water Resource Planning: Methods and Results. *Technical Report*. Decision Center for a Desert City, Global Institute of Sustainability, Arizona State University. Tempe, AZ.

Teaching Experience

Instructor, Kogod School of Business, American University (2015-present):
Business Analytics (undergraduate), *Business Insights through Analytics* (graduate),
Applied Managerial Statistics (graduate), *Production / Operations Management*
(undergraduate). Taught courses both on campus and online.

Lecturer and Discussion Leader, Defense Resource Management Institute, Naval Postgraduate School (2009-2015):
Delivered lectures encompassing a wide range of topics in quantitative analysis, decision maker preferences, uncertainty, risk, logistics, and economics. Coordinated and oversaw *Risk Management* and *Multicriteria Decision Making* courses.

Instructor, Global Public Policy Academic Group, Naval Postgraduate School (2012):
Introduction to Analytic Methods

Instructor, University of California, Irvine (2008-2009):
Business Statistics, Management Science

Teaching Interests

Decision analysis, analytics, preference modeling, behavioral decision theory, management science, operations research, statistics

Curriculum Development

American University:

ITEC 620 – Business Insights through Analytics: (on-campus): conducted a substantial revision of the course, most notably converting the course to be taught using R. Developed new material for all course topics, and coordinated with other Kogod graduate analytics courses, particularly ITEC-610 and ITEC-621.

ITEC 620 – Business Insights through Analytics: (online): developed the online course, including: creating new material, adapting existing material, recording asynchronous material (~17 hours), and leading development and delivery of synchronous material. Conducted significant revision of the online course in 2019, including re-recording nearly all of the asynchronous material.

ITEC 320 – Business Analytics: led a substantial revision of the course as part of its conversion from an undergraduate elective to a core course, including: creating new material, adapting existing material, and coordinating cases and activities with other departments.

Naval Postgraduate School:

Developed substantial material, including lectures, problems, and cases, for many of DRMI's team-taught courses. New lectures created and delivered include: *Decisions and Human Behavior*, *Decisions Under Uncertainty*, *Evaluating Multiple Risks*, *Predicting Uncertain Events*, *Quantitative Models for Analysis*, *Resource Allocation with Multiple Risks*, *Risk Perception*, *Scoping Decision Problems*, *Smart Data Measurement*, *Uncertainty and Rationality*.

Recent Invited Presentations

Society of Decision Professionals Webinar Series. Modeling Geographic Preferences for Policy Decisions. 2019.

UCI Decision Theory Doctoral Seminar. Modeling Altruistic Preferences. Irvine, CA, 2019.

Society for Information Management Regional Meeting. Leveraging GIS Data for Better Decisions. Washington, DC, 2017.

Decision Sciences Seminar Series. Self-Sustaining Supply Chains. Washington, DC, 2016.

Recent Conference Presentations

Simon, J. (2019). Modeling Altruistic Preferences. Advances in Decision Analysis, Milan, Italy.

Simon, J. (2018). Weight Approximation for Massively Multiattribute Decisions. INFORMS Annual Meeting, Phoenix, AZ.

Simon, J., Keller, L. R. (2018). Preferences in Spatial Decision Making. EURO 2018, Valencia, Spain.

Simon, J., Keller, L. R. (2017). Preferences in Spatial Decision Making. INFORMS Annual Meeting, Houston, TX.

Simon, J. (2017). Multiattribute Procurement with Uncertain Buyer Preferences. Advances in Decision Analysis, Austin, TX.

Simon, J. (2017). Procurement Auctions with Uncertain Buyer Preferences. INFORMS Computing Society Conference, Austin, TX.

Simon, J. (2016). Multiattribute Procurement Auctions with Unknown Buyer Preferences. INFORMS Annual Meeting, Nashville, TN.

Simon, J., Keller, L. R. (2016). Spatial Preference Functions for Risk Analysis. INFORMS Annual Meeting, Nashville, TN.

Simon, J., Apte, A., & Regnier, E. (2016). The Self-Sufficient Marine: Knapsacks and Tradeoffs. INFORMS International, Waikoloa, HI.

Simon, J., Apte, A., & Regnier, E. (2016). An Application of the Multiple Knapsack Problem: The Self-Sufficient Marine. Western Decision Sciences Institute Annual Meeting, Las Vegas, NV.

Recent Service

Associate Editor, *Decision Analysis*, 2012-present.

Associate Editor, *Military Operations Research*, 2019-present.

Webmaster & Social Media Officer, Decision Analysis Society, 2012-present.

Member, AU Core Committee: Quantitative Reasoning subcommittee, 2017-present.

Member, Advances in Decision Analysis 2019 Organizing Committee, 2018-2019.

Member, IT&A Department Recruiting Committee, Tenure-Line Analytics Faculty Position, 2018-2019.

Vice-Chair, Decision Analysis Society Membership Committee, 2017-2018.

Member, Kogod Undergraduate Curriculum Review Committee, 2016-2018.

Guest Editor, *Decision Analysis* special issue on Decision Analysis and Social Media, 2016-2017.

Track Chair, Computational Decision Analysis, INFORMS Computing Society Conference, 2017.

Member, AU Habits of Mind working group: Natural-Scientific Inquiry, 2017.

Track co-chair, Military Applications track, Western Decision Sciences Institute Annual Meeting, 2016.

Panelist, INFORMS Junior Faculty Interest Group: Publication Tips, 2015-2016.

Reviewer:

- Journals:
 - *Operations Research*
 - *Management Science*
 - *Decision Analysis*
 - *Decision Sciences*
 - *Risk Analysis*
 - *Manufacturing & Service Operations Management*
 - *Production and Operations Management*
 - *European Journal of Operational Research*
 - *Journal of Mathematical Psychology*
 - *Journal of the Operational Research Society*
 - *Environment Systems & Decisions*
 - *IISE Transactions*
 - *Computers & Industrial Engineering*
 - *Environment, Development and Sustainability*
 - *Operations Research Perspectives*

- *Games*
- Funding organizations
 - *National Science Foundation*
 - *American Association for the Advancement of Science*
- Book chapters:
 - *Analytical Methods for Risk Management: A Systems Engineering Perspective.*

Session Chair:

- Information and Decision Making, INFORMS Computing Society Conference, Austin, TX, 2017.
- Applications of Multiattribute Preferences, INFORMS Annual Meeting, Nashville, TN, 2016.
- Trade-offs in Prescriptive Applications of Decision Analysis, INFORMS International, Waikoloa, HI, 2016.
- Operations and Logistics, WDSI Annual Meeting, Las Vegas, NV, 2016.
- Spatial Analysis for Multicriteria Decisions, INFORMS Annual Meeting, San Francisco, CA, 2014.
- Selecting Objectives, INFORMS Annual Meeting, Minneapolis, MN, 2013.
- Risk and Uncertainty in Public Policy and Defense, INFORMS Annual Meeting, Phoenix, AZ, 2012.

Recent Honors and Awards

Kogod Research Professorship, 2019-2022.

AU International Travel Award, 2018.

Defense Resources Management Institute Faculty Teaching Award, 2013.

NPS Acquisition Research Program Award (two), 2012-2013.

Member of the US Young Scholars & Experts Delegation to the Republic of China (Taiwan), 2012.

NPS Acquisition Research Program Award, 2011-2012.

Pierskalla Award Finalist, INFORMS Health Applications Section, 2010

Professional Memberships

- Decision Analysis Society
- Public Sector Operations Research
- INFORMS