

# Jay Simon

Associate Professor  
Information Technology and Analytics  
Kogod School of Business  
American University

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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 Journal Articles

Simon, J. (2024). Inefficient Forecasts at the Sportsbook: An Analysis of Real-Time Betting Line Movement. *Management Science*. Advance online publication, <https://doi.org/10.1287/mnsc.2022.00456>.

Hupman, A., & Simon, J. (2023). The Legacy of Peter Fishburn: Foundational Work and Lasting Impact. *Decision Analysis*, **20**(1) 1-15.

Simon, J. (2022). Remote Supply Revisited: The Jeep Problem with Costly Transfer Points. *Multimodal Transportation*, **1**(2) 100019.

- Simon, J., Saari, D., & Keller, L. R. (2020). Interdependent Altruistic Preference Models. *Decision Analysis* **17**(3) 189-207.  
Finalist: *Decision Analysis* Special Recognition Award
- 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.
- Simon, J. (2020). Weight Approximation for Spatial Outcomes. *Sustainability* **12**(14) 5588.
- 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.
- 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.
- Simon, J. (2009). Decision Making with Prostate Cancer: A Multiple-Objective Model with Uncertainty. *Interfaces* **39**(3) 218-227.

### **Book Chapters, Technical Reports, and Proceedings Papers**

- Guyse, J. L., Huynh, C. H., Keller, L. R., & Simon, J. (2022). When Are We Willing to Wait: Prescriptive Challenges in Evaluating Intertemporal Outcomes. In M. Seifert, F. Federspiel, & G. Montibeller (Eds.), *Behavioral Decision Analysis*. Forthcoming.
- Huynh, C., L. R. Keller, & Simon, J. (2016). Decision Technologies. In G. Keren & G. Wu (Eds.), *Wiley-Blackwell Handbook of Judgment and Decision Making*.
- 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.

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.

Keller, L. R., Simon, J., & Wang, Y. (2009). Multiple Objective Decision Making with Multiple Stakeholders. *TutORials in Operations Research* 139-155.

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.

### **Papers Under Review**

Simon, J. Betting Markets from Opening to Closing: An Analysis of Real-Time NFL, NHL, and NBA Moneylines.

### **Research in Progress**

Neubauer, F., Simon, J., & Fiala, N. You Need it Now: The Immediacy Effect When Choosing for Others.

Acimovic, J., Parker, C., Simon, J., & Thomas, D. J. Estimating Inventory-Based Substitution Effects: Evidence from Digital Beer Boards.

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

Kujawski, E., & Simon, J. Eliciting and Modeling Epistemic and Aleatory Uncertainties for Realistic Shared Decision-Making: A Prostate Cancer Treatment Example.

Simon, J. Betting Market Reactions to Information: Moneyline and Point Spread Movement in Three Major Sports.

Omar, A., & Simon, J. Managing Cyber Resilience in a Global Supply Chain.

Guysel, J. L., & Simon, J. Impatience for Others: How Altruism Affects Intertemporal Anomalies.

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

## **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. Recorded the  
asynchronous videos for two courses that are used across all sections.

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, sports analytics, 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. Created asynchronous materials for online delivery.

*KSB 224 – Business Analytics*: developed an updated version of a business analytics undergraduate course for the new KSB core.

Served as a co-chair of the KSB undergraduate core curriculum revision committee. Oversaw and coordinated development of 15 courses.

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**

Washington Area IT Symposium (WAITS). Inefficient Forecasts at the Sportsbook: Analysis of Real-Time Betting Lines. Washington, DC, 2024.

Information Technology and Analytics Department Seminar. Inefficiencies in Sports Betting Markets: An Analysis of MLB Line Movement Data. Washington, DC, 2023.

UCI Decision Theory Doctoral Seminar. Decision Theory Research Areas. Irvine, CA, 2021.

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. (2023). Inefficient Forecasts at the Sportsbook: An Analysis of MLB Betting Lines. INFORMS Annual Meeting, Phoenix, AZ.

Simon, J. (2022). Inefficient Forecasts at the Sportsbook: An Analysis of Real-Time Betting Line Movement. Advances in Decision Analysis, Arlington, VA.

Simon, J. (2021). Which Map Do We Want: How to Use GIS Data to Improve Policy Decisions. UC GIS Week, virtual.

Simon, J. (2021). Decision Analysis Applications in Cybersecurity (panelist). INFORMS Annual Meeting, virtual.

Simon, J. (2021). Simulation Modeling in Cybersecurity (panelist). IISE Annual Meeting, virtual.

Simon, J., Omar, A. (2020). Cybersecurity in the Supply Chain: Coordination and a Strategic Attacker. INFORMS Annual Meeting, virtual.

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.

## **Recent Service**

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

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

Co-Chair, Kogod Undergraduate Core Curriculum Committee Phase III, 2023-present.

Member, Kogod Educational Policy Committee (EPC), 2022-present.

Member, AU Core Council, 2022-present.

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

Member, Clemen-Kleinmuntz *Decision Analysis* Best Paper Award Committee, 2024.

Judge, Smith Analytics Consortium 5<sup>th</sup> Annual Datathon, University of Maryland, 2024.

Co-Chair, Kogod Undergraduate Core Curriculum Committee Phase II, 2023.

Member, IT&A Department Recruiting Committee, Tenure-Line Faculty Position, 2023.

Member, Kogod Undergraduate Core Curriculum Committee Phase I, 2022-2023.

Member, IT&A Department Recruiting Committee, Tenure-Line Faculty Position, 2022.

Co-Chair, Decision Analysis Society Publication Award Committee, 2022.

Member, Advances in Decision Analysis 2022 Organizing Committee, 2021-2022.

Co-Chair, Advances in Decision Analysis 2022 Ph.D. Incubator Sessions, 2022.

Webmaster & Social Media Officer, Decision Analysis Society, 2012-2021.

Co-Chair, Decision Analysis Society Publication Award Committee, 2021.

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.

Reviewer:



- Journals: *Management Science; Operations Research; 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; Military Operations Research; INFORMS Journal on Applied Analytics; Environment Systems & Decisions; IISE Transactions; Computers & Industrial Engineering; Environment, Development and Sustainability; Operations Research Perspectives; Games; Annals of Operations Research; Utilitas; International Journal of Information Technology & Decision Making*
- 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.

#### **Recent Honors and Awards**

INFORMS Volunteer Service Award, 2022.

Kogod Research Professorship, 2019-2022.

Finalist, *Decision Analysis* Special Recognition Award, 2021.

AU International Travel Award, 2018.

#### **Professional Memberships**

- Decision Analysis Society
- Public Sector Operations Research
- SpORts
- INFORMS