

Andrea C. Hupman (Cadenbach)

Assistant Professor of Business Analytics

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ACADEMIC POSITIONS

2015 - present University of Missouri-St. Louis St. Louis, MO
Assistant Professor of Business Analytics

EDUCATION

2015 University of Illinois Urbana-Champaign, IL
Ph.D. in Systems and Entrepreneurial Engineering

2011 University of Illinois Urbana-Champaign, IL
M.S. in Systems and Entrepreneurial Engineering

2009 Northwestern University Evanston, IL
B.S. in Biomedical Engineering
Co-Captain of the Varsity Women's Swim & Dive Team

HONORS & AWARDS

2021 Supplemental Research Award, University of Missouri-St. Louis
2020 Faculty Appreciation Honoree, Women's Varsity Basketball, University of Missouri-St. Louis
2019 *IEEE Systems Journal* Best Paper Award, IEEE Systems Council
2019 Beta Gamma Sigma inductee, University of Missouri-St. Louis
2017 Gerald and Deanne Gitner Excellence in Teaching Award, University of Missouri-St. Louis
2016 William A. Chittenden Award, University of Illinois, Dept. Industrial & Enterprise Systems Engineering
2015 Selected Participant, INFORMS New Faculty Colloquium
2014 Selected Participant, Winter Simulation Ph.D. Student Colloquium
2014 List of Teachers Ranked as Excellent by Their Students, University of Illinois
2013 Mavis Future Faculty Fellowship, University of Illinois, College of Engineering
2012 Outstanding Teaching Assistant Award, University of Illinois, Dept. Industrial & Enterprise Systems Engineering
2011 Innovation Corps Participant, National Science Foundation
2008 Northwestern NCAA Woman of the Year nominee
2008 N Club Performance Award, Northwestern University, Athletics Department
2007 Paul and Margaret Schutt Scholarship, Northwestern University, Athletics Department

RESEARCH POSITIONS

2009-2015 Research Assistant, University of Illinois, Urbana-Champaign, IL
2010 Research Intern, IBM Research, Yorktown, NY
2008 Research Assistant, Kellogg School of Management, Evanston, IL

RESEARCH INTERESTS

- Decision Making under Uncertainty; Predictive Modeling & Uncertainty Quantification; Data Integration for Business Intelligence

PUBLICATIONS & PRESENTATIONS

Peer Reviewed Publications

- Hupman AC.** 2022. "Cutoff threshold decisions for classification algorithms with risk aversion." *Decision Analysis*. 19(1): 63-78.
- Zhang J, Campbell JF, Sweeney DC and **Hupman AC.** 2021. "Energy consumption models for delivery drones: A comparison and assessment." *Transportation Research Part D: Transport and Environment*. 102668.
- Sun Z, **Hupman AC**, and Abbas AE. 2021. "The value of information for price dependent demand." *European Journal of Operational Research*. 288(2): 511-522. (3 citations)
- Hupman AC**, Zhang J. 2019. "Simulating profit loss in behavioral newsvendor problems," *Proc. 2019 Winter Simulation Conference*; Washington, DC.
- Abbas AE, and **Cadenbach AH.** 2018. "On the use of utility theory in engineering design." *IEEE Systems Journal*. 12(2): 1129-1138.
- Abbas AE, **Cadenbach AH**, Salimi E. 2017. "A Kullback-Leibler view of maximum entropy and analytic center methods." *Entropy*. 19(5): 232, doi:10.3390/e19050232
- Salimi E, **Cadenbach AH**, Abbas AE. 2017. "Survey of four uncertainty quantification methods in systems engineering," *Proc. 15th Annual Conference on Systems Engineering Research*. Redondo Beach, CA
- Sun Z, **Hupman AC**, Ritchey HI, Abbas AE. 2016. "Bayesian updating of the price elasticity of uncertain demand." *IEEE Systems Journal*. 10(1): 136-146.
- Hupman AC**, Abbas AE, Schmitz TL. 2015. "Incentives versus value in manufacturing systems: An application to high-speed milling," *Journal of Manufacturing Systems*. 36: 20-26.
- Hupman A**, Abbas AE, Tibor E, Kannan H, Bloebaum C, Mesmer B. 2015. "Calculating value gaps induced by independent requirements, deterministic modeling, and fixed targets," *Proc. 11th AIAA Multidisciplinary Design Optimization Conference, 2015*; Kissimmee, FL.
- Abbas AE, **Hupman AC.** 2015. "On the use of utility theory in engineering design." *IIE Annual Conference Proceedings; 2015*, pp. 1152-1161, Nashville, TN.
- Hupman AC**, Abbas AE. 2014. "Optimizing fixed targets in organizations through simulation," *Proc. 2014 Winter Simulation Conference; 2014*; Savannah, GA.
- Hupman AC**, Abbas AE. 2012. "Modeling the costs of sugar-sweetened beverages to health care." *IIE Annual Conference Proceedings; 2012*; Orlando, FL.

Book Chapters

Hupman AC, Abbas AE. 2015. “Medical Decision Making: An Application to Sugar Sweetened Beverages.” In *Breakthroughs in Decision Science and Risk Analysis*, Ed. Louis Anthony Cox, Jr. John Wiley & Sons: Hoboken, NJ.

Presentations

Hupman, AC. 2022. “Adjusting Machine Learning Algorithms for Risk Aversion,” *Advances in Decision Analysis Conference*, Arlington, VA.

Hupman, AC. 2021. “Risk aversion & cutoff thresholds for two-action decisions,” *INFORMS Annual Meeting 2021*, Anaheim, CA

Hupman, AC. 2021. “Cutoff thresholds for cost sensitive predictive algorithms,” *UMSL – Missouri S&T Brown Bag Seminar Series*. Feb. 19, 2021, Online.

Hupman, AC, Sun, Z. and Abbas, AE. Nov. 2020. “The value of information for price dependent demand,” *INFORMS Annual Meeting 2020*, Online.

Hupman, AC and Zhang, J. Dec 2019. “Simulating profit loss in behavioral newsvendor problems,” *Proc. of the 2019 Winter Simulation Conference*. Washington, DC.

Hupman, AC and Millstein, MA. Oct. 2019. “Sensitivity Analysis to Value Specification and Measurement.” *INFORMS Annual Meeting 2019*, Seattle, WA.

Hupman, AC. June 2019. “Understanding Decisions with Conflicting Incentives: A Behavioral Experiment.” *Advances in Decision Analysis Conference*, Milan, Italy.

Cadenbach, AH. 2018. “Understanding Decisions from Normative and Descriptive Perspectives.” *UMSL Early Career Research Symposium*, Saint Louis, MO.

Cadenbach, AH. 2017. “New Results on Risk Attitudes in Operations Decisions.” *INFORMS Annual Meeting 2017*, Houston, TX.

Cadenbach, AH. 2017. “A Summary of Recent Research.” *UMSL Symposium on Women in Supply Chain*, St. Louis, MO.

Cadenbach, AH. 2016. “Relating utility functions to target and incentive based decisions.” *UMSL Department of Supply Chain & Analytics Doctoral Seminar Series*, St. Louis, MO.

Cadenbach, AH. 2016. “Operations Decisions with Target Based Incentives.” *INFORMS Annual Meeting 2016*, Nashville, TN.

Cadenbach, AH, and Abbas, AE. 2015. “Individualized Predictions of Normative Decision Making.” *INFORMS Annual Meeting 2015*, Philadelphia, PA.

Hupman, AC, and Abbas, AE. 2013. “Value-Maximizing Fixed Targets.” *INFORMS Annual Meeting 2013*, Minneapolis, MN.

GRANT ACTIVITY

Research Grants

Funded. \$97,754, with Co-PI Haitao Li, “Using Advanced Analytics for Supply Chain Risk Assessment and Mitigation,” Corporate Research Grant. 2019 – 2021.

Funded. \$12,000, “A Behavioral Examination of Conflicting Incentives,” University of Missouri-St Louis Research Award. 2017-2019.

Service Grants

Funded. \$2,800, “Symposium on Women and Careers in Supply Chain Management,” UMSL Women’s Giving Circle. 2016-2017.

TEACHING EXPERIENCE

University of Missouri-St. Louis

2015 - present Business Analytics & Statistics
 2020 - present Predictive Analytics & Data Mining
 2017 Decision & Risk Analysis (PMBA)
 2016 - 2017 Statistics Boot Camp (PMBA and Flex MBA Programs’ Waiver Exam Prep Course)
 2016 Simulation for Managerial Decision Making

University of Illinois at Urbana-Champaign

2014 Decision Analysis I
 2012 - 2013 Decision Analysis I (Teaching Assistant, Fall Semesters)
 2012 - 2013 Analysis of Data (Teaching Assistant, Spring Semesters)
 2011 Creativity, Innovation & Vision (Teaching Assistant)
 2009 - 2011 Engineering Design (Teaching Assistant)

SERVICE

Professional Service

2019 - present Editorial Board Member, *Decision Analysis*
 2018 - 2021 Decision Analysis Society Council Member
 2011 - 2021 Reviewer for *Decision Analysis*, an INFORMS journal
 2020 - 2021 Reviewer for *Journal of the Operational Research Society*
 2019 - 2021 Reviewer for *European Journal of Operational Research*
 2020 Reviewer for *Royal Society Open Science*
 2015 - 2020 Session Chair, INFORMS Annual Meeting
 2019 Ad hoc grant reviewer for the National Science Foundation
 2016 - 2017 Decision Analysis Society Cluster Co-Chair, INFORMS Annual Meeting
 2011 - 2015 Editorial Board Member of ORMS Tomorrow, the INFORMS Student Magazine

University Service

2019 - present LSCM PhD Committee Member, Department of Supply Chain & Analytics
 2015 - present Faculty Research and Development Committee Member, College of Business Administration
 2021 Spring Research Panel, University of Missouri-St. Louis
 2020 Spring Research Panel, University of Missouri-St. Louis
 2016 - 2020 Dean’s Advisory Committee Member, College of Business Administration
 2019 Faculty Search Committee Member, Department of Supply Chain & Analytics

- 2018 - 2019 Barriger Professorship Search Committee Member, Department of Supply Chain & Analytics
- 2016 - 2019 Doctoral Studies Committee Member, College of Business Administration
- 2015 - 2018 Student Engagement Subcommittee Chair, Department of Supply Chain & Analytics
- 2017 Symposium on Women in Supply Chain, Organizer
- 2016 - 2017 Search Committee Member, Department of Supply Chain & Analytics
- 2015 - 2016 Search Committee Member, Department of Supply Chain & Analytics
- 2014 - 2015 Advisory Board Member, UIUC Student Chapter, American Society for Engineering Education
- 2013 - 2015 Student Consultant on Teaching, UIUC Academy for Excellence in Engineering Education

Doctoral Dissertation Committees

Deann Peng (Successful defense Fall 2021), “Optimizing Vaccine Supply Chains with Drones in Less-Developed Regions: Multimodal Vaccine Distribution in Vanuatu”

Chidu Subbiah (Co-Chair; Successful defense in Fall 2019), “Task-Based Estimation and Planning for Application Development Projects and Resources: Models, Methods and Applications”

Anthony Vatterott (Successful defense in Fall 2018), “A Multi-Skilled Approach to Property Maintenance Considering Temporal, Spatial and Resource Constraints”

Advising Undergraduate Research

Sarah Rizzo (Fall 2016), Independent Study, “Trends of Women in Leadership in Supply Chain Management”

Alexandria Schultz (Spring 2018), Funded as an Undergraduate Research Assistant

PROFESSIONAL DEVELOPMENT

- 2021 Online Teaching Certification • University of Missouri System
- 2015 Teacher Scholar Certificate • Center for Innovation in Teaching & Learning, Univ. of Illinois
- 2014 Graduate Teacher Certificate • Center for Innovation in Teaching & Learning, Univ. of Illinois
- 2012 Business Management for Engineers Certificate • Technology Entrepreneur Center, Univ. of Illinois