Nickolas (Nick) K. Freeman, Ph.D.

Assistant Professor of Operations Management
Culverhouse College of Business
Department of Information Systems, Statistics, and Management Science (ISM)
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RESEARCH INTERESTS

Healthcare operations management, supply chain risk management, applied operations research

ACADEMIC APPOINTMENTS

Assistant Professor of Operations Management   August 2017 to present
Culverhouse College of Business, University of Alabama

Assistant Professor of Supply Chain Management   September 2014 to August 2017
Bauer College of Business, University of Houston

EDUCATION

The University of Alabama, Tuscaloosa, AL

Ph.D., Operations Management, May 2014
- Dissertation Topic: *New Models for Operations Planning Under Risk and Uncertainty.*
- Advisors: Dr. Sharif H. Melouk and Dr. John Mittenthal

M.S., Operations Management, May 2012

B.S., Industrial Engineering, May 2007

- *Magna cum Laude*

REFEREED JOURNAL PUBLICATIONS

Freeman, N.K., Zhao, M, Melouk, S.H., and Mittenthal, J. The Economics of Overlapping Surgery. Forthcoming in *Production & Operations Management (POMS)* (available online).

Freeman, N.K., Narayanan, A., and Burns, G.P. (2019) A Decision Support System for Empty Hopper Car Management. *INFORMS Journal on Applied Analytics* (formerly *Interfaces*), 49(1): 173-188.

Zhao, M. and Freeman, N.K. (2019). Robust Sourcing from Suppliers under Ambiguously Correlated Major Disruption Risks. *Production & Operations Management (POMS)*, 28(2): 441-456.

Freeman, N.K., Keskin, B.B., and Çapar, I. (2018). Attractive Orienteering Problem with Proximity and Timing Interactions. *European Journal of Operational Research (EJOR)*, 266(1): 354-370.

Freeman, N.K., Mittenthal, J., Melouk, S.H., and Keskin, B.B. (2018). Sourcing Strategies for a Capacitated Firm Subject to Supply and Demand Uncertainty. *Omega*, 77: 127-142.

Freeman, N.K., Zhao, M., and Melouk, S.H. (2018). An Iterative Approach for Case Mix Planning Under Uncertainty. *Omega*, 76: 160-173.

Freeman, N.K., Melouk, S.H., and Mittenthal, J. (2016). A Scenario-Based Approach for Operating Theater Scheduling under Uncertainty. *Manufacturing & Service Operations Management (MSOM)*, 18(2): 245-261.

Keskin, B.B., Çapar, I., Sox, C., and Freeman, N.K. (2014). An Integrated Load Planning Algorithm for Outbound Logistics at Webb Wheel. *Interfaces* (now *INFORMS Journal on Applied Analytics*), 44(5):480-497.

Freeman, N.K., Mittenthal, J., and Melouk, S.H. (2014). Parallel Machine Scheduling to Minimize Overtime and Waste Costs. *IIE Transactions* (now *IISE Transactions*), 46(6):601-618.

Melouk, S.H., Freeman, N.K., Miller, D., and Dunning, M. (2013). Simulation Optimization-Based Decision Support Tool for Steel Manufacturing. *International Journal of Production Economics*, 141(1):269–276.

Papers Under Review	Freeman, N.K., Narayanan, A., and Keskin, B.B. Optimal Use of Downward Substitution in a Manufacturing Operation Subject to Uncertainty. First revision under review at *Production & Operations Management (POMS)*.
	Zhao, M. and Freeman, N.K. Distributionally Robust Sourcing. Under review at *Management Science*.
Papers in Preparation	Dogru, A.K., Melouk, S.H., and Freeman, N.K. Primary Care Capacity Planning for Open Access Appointment Systems. In preparation for submission to *Production & Operations Management (POMS)*.
	Freeman, N.K. and Mittenthal, J. A Data-driven Approach to Scheduling at a University Testing Center. In preparation for submission to *INFORMS Journal on Applied Analytics*.
	Freeman, N.K., Keskin, B.B., Melouk, S.H., and Mittenthal, J. The Optimal use of In-house Production for the Mitigation of Supply and Demand Uncertainty. In preparation for submission to *Manufacturing & Service Operations Management (MSOM)*.
Other Publications	Freeman, N.K., Mittenthal, J., and McManus D.J. (2019). How one business school built an analytics program. *OR/MS Today* 46(4). Institute for Operations Research and the Management Sciences (INFORMS). https://doi.org/10.1287/orms.2019.04.02
Conference Talks	Freeman, N.K. and J. Mittenthal. A Data-driven Approach to Scheduling at a University Testing Center. *2018 POMS Annual Meeting & 2018 INFORMS Annual Meeting*.
	Freeman, N.K., Zhou, M., S.H. Melouk, and J. Mittenthal. Teaching Analytics Methods with Jupyter Notebooks and Python. *2018 INFORMS Annual Meeting*.
	Freeman, N.K., Zhou, M., S.H. Melouk, and J. Mittenthal. The Economics of Overlapping Surgery. *2018 POMS Annual Meeting*.
	Moritz, B., Narayanan, A., and Freeman, N.K. The Impact of Capacity and Fixed costs on Routine Sourcing Decisions under Uncertainty: A Behavioral Investigation. *2017 INFORMS Annual Meeting*.
	Freeman, N.K., Keskin, B.B., and Çapar, I. Attractive Orienteering Problem with Proximity and Timing Interactions. *2017 INFORMS Annual Meeting*.
	Freeman, N.K., B.B. Keskin, S.H. Melouk, and J. Mittenthal. The Optimal Use of In-house Production as a Mitigation Strategy for Supply and Demand Uncertainty. *2017 POMS Annual Meeting*.
	Zhao, M. and N.K. Freeman. Optimal Sourcing from Ambiguously Correlated Suppliers. *2017 MSOM Conference & 2017 POMS Annual Meeting*.
	Keskin, B.B., I. Çapar, C. Sox, and N.K. Freeman. Route Optimization for Logistics Cost Reduction and Timely Delivery. *Building Material Logistics Forum 2016*.
	Freeman, N.K. and A. Narayanan. The Impact of Multiple Products and Limited Capacity on Routine Sourcing Decisions. *2016 DSI Annual Meeting*.
	Freeman, N.K., S.H. Melouk, and J. Mittenthal. The Economics of Flipping Operating Rooms. *2016 POMS Annual Meeting*.
	Freeman, N.K., M. Zhao, and S.H. Melouk. An Iterative Approach for Case Mix Planning Under Uncertainty. *2016 POMS Annual Meeting*.
	Freeman, N.K., A. Narayanan, and B.B. Keskin. Downward Substitution as a Mitigation Strategy for Supply and Demand Risk. *2015 DSI Annual Meeting*.
	Freeman, N.K., B.B. Keskin, S.H. Melouk, and J. Mittenthal. Mitigation Strategies for a Manufacturer Subject to Supply and Demand Uncertainty. *2014 POMS Annual Meeting, 2014 INFORMS Annual Meeting, & 2014 DSI Annual Meeting*.
	Keskin, B.B., I. Çapar, C. Sox, and N.K. Freeman. An Integrated Load Planning Algorithm for Outbound Logistics at Webb Wheel. Invited session, *2013 DSI Annual Meeting*.
	Freeman, N.K., J. Mittenthal, and S.H. Melouk. A Scenario-Based Approach for Operating Theater Scheduling Under Uncertainty. *2013 POMS Annual Meeting, 2013 INFORMS Annual Meeting, & 2013*

DSI Annual Meeting.

Freeman, N.K., J. Mittenthal, and S.H. Melouk. Parallel Machine Scheduling to Minimize Overtime and Waste Costs. *2012 INFORMS Annual Meeting & 2013 POMS Annual Meeting*, May 3–6, 2013.

Melouk, S.H., N.K. Freeman, D. Miller, and M. Dunning. Simulation optimization-based decision support tool for steel manufacturing. *2011 INFORMS Annual Meeting.*

STUDENT ADVISING

Hannan Sadjady Naeeni.
Ph.D. Student in Supply Chain Management Program, University of Houston. Impacts of Corporate Social Responsibility on New Product Development. Member of Dissertation Committee. Expected graduation: 2019.

Jia Guo.
Ph.D. Student in Operations Management Program, University of Alabama. Distribution System Design for Omnichannel Retailing. Member of Dissertation Committee. Expected graduation: 2019.

Ali Kemal Dogru.
Ph.D. Student in Operations Management Program, The University of Alabama. Models for Patient-Centered Primary Care Appointment Scheduling. Member of Dissertation Committee. 2018.

Priyanka Savant.
Undergraduate student in Bauer Business Honors Program, University of Houston. The Impact of the Internet of Things and Analytics on the Oil and Gas Industry. Honors thesis. 2017.

Aminat Muibi.
Undergraduate student in Bauer Business Honors Program, University of Houston. Theories of Executive Decision-making. Honors thesis. 2017.

TEACHING EXPERIENCE

University of Alabama, Tuscaloosa, AL
Instructor

OM 527: Purchasing and Sourcing – Spring 2019
- Section 320 Overall instructor rating: 4.96 (out of 5) with 64% of class responding

OM 522: Operations Scheduling Problems – Fall 2018
- Section 001 Overall instructor rating: 5.00 (out of 5) with 59% of class responding

OM 527: Purchasing and Sourcing – Spring 2018 (**New Course Development**)
- Section 320 Overall instructor rating: 4.92 (out of 5) with 76% of class responding

OM 385: Information Technology for Operations Management – Fall 2013
- Section 001 Overall instructor rating: 4.29 (out of 5) with 100% of class responding
- Section 320 Overall instructor rating: 4.61 (out of 5) with 100% of class responding

OM 300: Introduction to Operations Management – Summer 2013
- Overall instructor rating: 4.58 (out of 5) with 73% of class responding

OM 300: Introduction to Operations Management – Summer 2012
- Overall instructor rating: 4.53 (out of 5) with 60% of class responding

University of Houston, Houston, TX
Instructor

SCM 4362: Demand and Supply Integration – Spring 2017
- Section 17635 Overall teaching effectiveness: 4.67 (out of 5) with 97% of class responding
- Section 17636 Overall teaching effectiveness: 4.72 (out of 5) with 84% of class responding
- Section 17637 Overall teaching effectiveness: 4.80 (out of 5) with 94% of class responding

SCM 4362: Demand and Supply Integration – Spring 2016
- Section 19289 Overall teaching effectiveness: 4.68 (out of 5) with 93% of class responding
- Section 19290 Overall teaching effectiveness: 4.77 (out of 5) with 93% of class responding
- Section 19291 Overall teaching effectiveness: 4.74 (out of 5) with 90% of class responding

SCM 4362: Demand and Supply Integration – Spring 2015
- Section 20179 Overall teaching effectiveness: 4.56 (out of 5) with 50% of class responding
- Section 20180 Overall teaching effectiveness: 4.68 (out of 5) with 61% of class responding
- Section 20182 Overall teaching effectiveness: 4.70 (out of 5) with 59% of class responding

SERVICE

Professional Service
- Member, *INFORMS Education Strategy Committee*, July 2019 - present
- Associate Editor, *INFORMS Journal on Applied Analytics*, January 2019 - present
- Member, *INFORMS University Analytics Program Committee*, February 2019 - present
- Co-chair, *New Faculty Colloquium*, 2019 INFORMS Annual Meeting
- Co-chair, *New Faculty Colloquium*, 2018 INFORMS Annual Meeting
- Session Chair, *Healthcare Scheduling and Logistics*, 2018 POMS Annual Conference
- Session Chair, *Healthcare Scheduling and Logistics*, 2016 POMS Annual Conference
- Session Chair, *Examining Supply Chain Disruptions*, 2015 DSI Annual Meeting

Referee Service
- *Applied Mathematical Modeling*
- *Computers & Operations Research*
- *Decision Sciences*
- *European Journal of Operational Research*
- *IEEE Transactions on Engineering Management*
- *INFORMS Journal on Computing*
- *Interfaces*
- *International Journal of Production Research*
- *Journal of Manufacturing Systems*
- *Production and Operations Management (POMS)*
- *OMEGA*

University Service
- ISM representative for UA Early College's LEAP program, Summer 2018

College Service
- Member of Culverhouse Core Curriculum Committee, Spring 2018 - present
- Panelist, Bauer Academic Job Market Training for Doctoral Students, Summer 2015

Department Service
- Co-coordinator, Master of Science in Business Analytics Program, Spring 2019 - present
- Faculty Advisor, UA INFORMS student chapter, Fall 2018 - present
- Member, MSOM admission committee, Fall 2017 - Fall 2018

PROFESSIONAL MEMBERSHIPS
- Institute for Operations Research and the Management Sciences (INFORMS)
- INFORMS Manufacturing & Service Operations Management Society (MSOM)
- Production & Operations Management Society (POMS)

PROFESSIONAL CERTIFICATIONS
- INFORMS Certified Analytics Professional (CAP)

AWARDS

The University of Alabama
- Culverhouse College of Business Early Achievement in Research Award, 2019
- Outstanding Dissertation, Manderson Graduate School of Business, 2015
- Outstanding Operations Management Doctoral Student, 2014
- *2013 Daniel H. Wagner Prize for Excellence in Operations Research Practice* finalist for collaboration on the work "Integrated Load Planning Algorithm for An Outbound Supply Chain"

- First Place, INFORMS Deep South Chapter Analytics Research Workshop Student Poster Competition, April 12, 2013
- Outstanding Operations Management Student Instructor, 2013
- Outstanding Operations Management Doctoral Student, 2012
- University of Alabama Outstanding Applied Research Award in Operations Management, 2011

SOFTWARE
SKILLS

- Optimization: CPLEX, Gurobi
- Simulation: ARENA, ProModel, SIMAN
- Programming: C++, Python
- Statistical: Minitab, R
- MS Office including Access
- TEX (LaTeX, BibTeX)
- Drafting: AutoCAD, Catia

PROFESSIONAL
EXPERIENCE

Alabama Productivity Center, Tuscaloosa, AL

Graduate Research Assistant **June 2010 to June 2012**

Worked on numerous planning and scheduling projects for Alabama-based companies, including:

- Conducted process analysis and time standard development for DeShazo Crane Company (Alabaster, AL).
- Developed vendor selection model for a leading provider of coaxial cable to DISH Network.
- Conducted analysis of production scheduling for Warren Distribution, a manufacturer and wholesale distributor of automotive after-market products (Guntersville, AL).
- Conducted simulation analysis of internal logistics for SSAB Steel (Mobile, AL).

BF Goodrich Tire Company, Tuscaloosa, AL

Process/Quality Engineer for Tire Building **May 2007 to May 2010**

- Analyzed daily quality reports to identify and troubleshoot manufacturing-related quality issues arising in tires produced for Ford, Jeep, and Hummer.
- Developed information systems for quality management, inventory control, and production scheduling.
- Developed weekly machine schedules for tire dimensions in an environment with sequence dependent setup times and costs.
- Developed and led quality-focused training activities for tire building employees.

Elk Corporation (now GAF/ELK), Tuscaloosa, AL

Quality Assurance Intern **December 2004 to May 2007**

- Worked with process improvement teams to identify problems, develop solutions, and oversee the implementation of candidate solutions.
- Developed MS Access databases for purposes of Quality Control, Human Resources, Documentation, and Employee Certification.
- Created a raw material purchasing application that used planned production variables to forecast raw material needs of the company.