

Michael D. Sherwin, Ph.D., P.E., CSSBB

Assistant Professor of Industrial Engineering
Assistant Graduate Program Director
Swanson School of Engineering | University of Pittsburgh
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EDUCATION

Ph.D., Industrial and Systems Engineering, Mississippi State University, August 2018

- Dissertation: "An Optimized Resource Allocation Approach to Identify and Mitigate Supply Chain Risks Using Fault Tree Analysis"
- Advisor: Dr. Hugh Medal

M.B.A., Tepper School of Business, Carnegie Mellon University, May 2008

M.S., Industrial Engineering, Penn State University, December 2001

- Thesis: "An Empirical Approach to Dimensional Tolerance Capability for Sintered Ferrous Powder Metal Components Formed by Die Compaction"
- Advisor: Dr. Robert Voigt

B.S., Materials Science and Engineering, Penn State University, December 1999

RESEARCH INTERESTS

- Engineering education
- Supply chain risk management
- Machine learning
- Manufacturing operations and processes
- Factors affecting organizational performance
- Multi-criteria decision making
- Predictive analytics
- Reliability optimization of complex systems

PUBLICATIONS

- Zhou, Rui, Tanveer Hossain Bhuiyan, Hugh Medal, Michael Sherwin, and Dong Yang. "A Stochastic Programming Model with Endogenous Uncertainty for Selecting Supplier Development Programs to Proactively Mitigate Supplier Risk", Omega, ISSN 0305-0483 (2021).
- Sherwin, Michael Daniel and Bopaya Bidanda. "Effects of Pedagogical Changes to an Engineering Capstone Course During the COVID-19 Pandemic." 2021 ASEE Virtual Annual Conference Content Access. 2021.
- Sherwin, Michael D. "COVID-19: A Wake-Up Call for Supply Chain Professionals". In: The Future of Global Supply Chains Post-Pandemic, Global Manufacturing & Industrialization Summit Knowledge Hub. August 2020.
- Sherwin, Michael D., Hugh R. Medal, Cameron A. MacKenzie, and Kennedy J. Brown. "Identifying and mitigating supply chain risks using fault tree optimization", IISE Transactions 52:2 (2020): 236-254.

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- Sherwin, Michael D., Hugh Medal, and Steven A. Lapp. "Proactive cost-effective identification and mitigation of supply delay risks in a low volume high value supply chain using fault-tree analysis." *International Journal of Production Economics* 175 (2016): 153-163.

BOOK CHAPTERS

- Sherwin, Michael D. Chapter 5: Quality Control. In: *Maynard's Industrial Engineering Handbook, Sixth Edition*. McGraw-Hill Standard Handbooks. Currently awaiting publication.
- Sherwin, Michael D. Chapter 7: Quality Management. In: *Maynard's Industrial Engineering Handbook, Sixth Edition*. McGraw-Hill Standard Handbooks. Currently awaiting publication.

WORKING PAPERS

- Hurtado, Carlos, M. Amin Rahimian, Michael Sherwin. "A Random Generative Model of the Product Supply Chain Co-design Space."
- Sherwin, Michael, Alison Linares Mendoza, Renee M. Clark. "Success Factors in a Project-Based Industrial Engineering Senior Design Capstone Course."
- Sherwin, Michael, Hugh Medal, and Cameron MacKenzie. "Quantitative Assessment of the Factors that Influence and Predict Supplier Reliability using Logistic Regression."

TEACHING

Course Number	Course Title	Term	Enrollment (Responses)	Evaluation Score (Max = 5.0)
University of Pittsburgh, Swanson School of Engineering				
IE 1090	Senior Design Capstone Course	SP 2021	45 (17)	4.74
IE 1080	Supply Chain Analysis	SP 2021	28 (14)	4.62
IE 1203	Warehouse Operations	SP 2021	8 (8)	4.68
IE 2203	Warehouse Operations (graduate)	SP 2021	3 (0)	--
IE 1090	Senior Design Capstone Course	FA 2020	35 (14)	4.00
IE 1072	Design of Experiments and Quality Assurance	FA 2020	59 (35)	4.64
IE 1055	Facility Layout and Material Handling	FA 2020	28 (12)	4.82
IE 2025	Facility Layout and Material Handling (graduate)	FA 2020	7 (5)	4.60
IE 1090	Senior Design Capstone Course	SU 2020	9 (7)	4.96
IE 1072	Design of Experiments and Quality Assurance	SP 2020	24 (19)	4.38
IE 1080	Supply Chain Analysis	SP 2020	18 (11)	4.70
IE 1090	Senior Design Capstone Course Mentor	SP 2020	--	--
IE 1072	Design of Experiments and Quality Assurance	FA 2019	40 (21)	4.77

Course Number	Course Title	Term	Enrollment (Responses)	Evaluation Score (Max = 5.0)
Duquesne University, Palumbo-Donahue School of Business				
SCMG 620	Forecasting and Demand Management	SU 2021	6	4.84
SCMG 527	Supply Chain / Operations Management	SU 2019	10	4.80
SCMG 527	Supply Chain / Operations Management	SU 2018	6	4.54
SCMG 527	Supply Chain / Operations Management	SU 2017	9	4.76
Chatham University, Department of Business and Entrepreneurship				
BUS 301	Continuous Improvement Methods	SP 2021	13	--
BUS 413	Logistics and Operations	FA 2020	26	4.60
BUS 301	Continuous Improvement Methods	FA 2020	9	--
BUS423	Continuous Improvement Project Course	SP 2020	1	--
BUS 301	Continuous Improvement Methods	SP 2020	1	--
BUS 413	Logistics and Operations	FA 2019	15	4.80
BUS 413	Logistics and Operations	FA 2018	17	4.80
BUS 301	Introduction to Six Sigma	SP 2018	15	4.52
BUS 413	Logistics and Operations	FA 2017	10	4.78
BUS 301	Introduction to Six Sigma	SP 2017	16	4.63
BUS 698	Strategy and Entrepreneurship	SP 2017	11	4.62
BUS 413	Logistics and Operations	FA 2016	7	5.00
Jack Welch Management Institute				
JWI 550	Operations Management	FA 2019	20	--
Mississippi State University, Bagley College of Engineering				
IE 7000	Supply Chain Risk Modeling	SP 2016	1	--
Robert Morris University, Department of Engineering				
ENGR 3680	Introduction to Quality Engineering	SP 2016	48	4.50
ENGR 3680	Introduction to Quality Engineering	FA 2015	23	--
ENGR 3680	Introduction to Quality Engineering	SP 2015	27	4.57
ENGR 3680	Introduction to Quality Engineering	SP 2014	17	4.83
ENGR 3680	Introduction to Quality Engineering	SP 2013	15	4.82
ENGR 3900	Optimization Techniques	FA 2013	15	--
ENGR 3680	Introduction to Quality Engineering	SP 2012	15	4.33

EXPERIENCE

University of Pittsburgh	Pittsburgh, PA
<ul style="list-style-type: none">• Assistant Professor of Industrial Engineering• Assistant Graduate Program Director• Undergraduate Academic Program Committee• Supply Chain Management Plus3 Global Experience Lead: Cyprus	2020 – Present 2021 – Present 2021 – Present 2021 – Present
Next Ridge Technologies, LLC	Valencia, PA
<ul style="list-style-type: none">• Principal Consultant	2020 – Present
Curtiss-Wright	Cheswick, PA
<ul style="list-style-type: none">• Lead, Forensic Analysis (Special Project for Equipment Event at Nuclear Power Plant)• Senior Manager, Quality Assurance – Supplier Quality Excellence• Senior Manager, Process Improvement• Manager, Quality System Excellence• Manager, Quality Assurance Engineering	2019 2014 – 2019 2013 – 2014 2012 – 2013 2011 – 2012
Precision Therapeutics	Pittsburgh, PA
<ul style="list-style-type: none">• Director, Quality Systems and Improvement• Operational Excellence Leader	2010 – 2011 2009 – 2010
Kennametal Inc.	Latrobe, PA
<ul style="list-style-type: none">• Plant Manager and Site Leader• Project Manager• Manager, Quality and Manufacturing Engineering	2007 – 2009 2007 2005 – 2007
Crucible Compaction Metals (now ATI)	Oakdale, PA
<ul style="list-style-type: none">• Materials and Process Engineer	2004 – 2005
AMTellec, Inc.	State College, PA
<ul style="list-style-type: none">• Marketing Engineer	2002 – 2004
Westinghouse Electric Company	Cheswick, PA
<ul style="list-style-type: none">• Industrial Engineer	2001 – 2002

CONFERENCE, SEMINAR, AND INVITED PRESENTATIONS (PRESENTER IN BOLD)

- **Sherwin, Michael**, Bangalore Chamber of Industry and Commerce (BCIC), “Digital Supply Chains”, September 2020.
- **Sherwin, Michael**, "Effects of Pedagogical Changes to an Engineering Capstone Design Course During the COVID-19 Pandemic", ASEE 2021 (Long Beach, CA), July 2021.
- **Sherwin, Michael**, Delivered Inaugural Address and served as Chief Guest for the RV College of Engineering Faculty Development Program on “Achieving Operational Excellence by Digital Supply Chain”, June 2021.
- **Sherwin, Michael**, Supply Chain Expert Discussion Leader, Global Experience Program: Virtually Exploring Global Supply Chains, University of Pittsburgh Global Experience Office, June 2021.
- **Sherwin, Michael**, "Identifying and mitigating supply chain risks using fault tree optimization", IISE Transactions Best Papers Special Session, IISE 2021 (Virtual), May 2021.
- **Sherwin, Michael**, "A Probabilistic Assessment of Supply Chain Reliability Using Monte Carlo Simulation and Fault Tree Analysis", IISE 2021 (Virtual), May 2021.
- **Sherwin, Michael**, "The Future of Supply Chain Management and How IEs Play a Vital Role", IISE Northeast Student Chapter Regional Conference (Virtual), March 2021.
- **Sherwin, Michael**, "Supply Chain Risk, Reliability, Resiliency, and Lessons Learned in 2020", Penn State University Virtual Speaker Series, March 2021.
- **Bursic, Karen, Michael Sherwin, and Taylor Mungin**, "So you want to be an Engineer?", University of Pittsburgh Swanson School of Engineering Recruiting Series, March 2021.
- **Sherwin, Michael**, "Working in Industry: My (Not So Straightforward) Journey from Industry to Academia", University of Pittsburgh Swanson School of Engineering Preparation for a STEM Academic Career Graduate Student Seminar, February 2021.
- **Sherwin, Michael**, "It's Halftime: Lessons Learned from the First Half of My Career", University of Pittsburgh IISE Student Chapter Meeting, February 2020.
- **Sherwin, Michael**, "Supply Chain Management in the Time of COVID-19", University of Pittsburgh Industrial Engineering Undergraduate Student Seminar, October 2020.
- **Sherwin, Michael**, "It's All about the Sauce: The Secrets to Successful Process Improvement", American Society for Quality (ASQ) Human Interaction: The Other Aspect of Process Improvement Conference, September 2020.
- **Sherwin, Michael**, "Navigating the Complexities of Supply Chain Management", Catalyst Connection Webinar, September 2020.
- **Sherwin, Michael and Jon Carmona**, "Risk Management and Resilience Engineering in Supply Chains", IISE Columbus, OH Chapter (Chapter #1) Webinar Series, July 2020.
- **Schmidt, David, Ahmed Dallal, and Michael Sherwin**, "Jam Sessions: Design Courses & Capstones", University of Pittsburgh Swanson School of Engineering Fall 2020 Preparation Sessions, July 2020.
- **Sherwin, Michael**, "My (Not So Straightforward) Journey from Industry to Academia", University of Pittsburgh Swanson School of Engineering Preparation for a STEM Academic Career Graduate Student Seminar, February 2020.

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- **Sherwin, Michael**, "Identification and Mitigation of Supply Chain Risks", APICS Pittsburgh Chapter Meeting, November 2018.
- **Sherwin, Michael**, Hugh Medal, and Cameron MacKenzie, "An Optimized Resource Allocation Approach to Identify and Mitigate Supply Chain Risks Using Fault Tree Analysis and Predicting Supplier Reliability in a Low Volume High Value Supply Chain", INFORMS (Phoenix, AZ), November 2018.
- **Sherwin, Michael**, Hugh Medal, Cameron MacKenzie, and Kennedy Brown, "An Optimized Resource Allocation Approach to Identify and Mitigate Supply Chain Risks Using Fault Tree Analysis", INFORMS (Houston, TX), October 2018.
- **Sherwin, Michael**, Hugh Medal, Cameron MacKenzie, and Kennedy Brown, "An Optimized Resource Allocation Approach to Identify and Mitigate Supply Chain Risks Using Fault Tree Analysis", IISE Annual Conference (Pittsburgh, PA), May 2017.
- **Sherwin, Michael**, Hugh Medal, and Steven Lapp, "Application of Fault Tree Analysis to Supply Chain Risk Management and Mitigation", INFORMS (Philadelphia, PA), November 2015.
- **Sherwin, Michael**, Hugh Medal, and Steven Lapp, "Risk Mitigation in a Supply Chain Infrastructure Using Fault Tree Analysis", IIE Annual Conference (Nashville, TN), May 2015.
- **Sherwin, Michael**, Hugh Medal, and Steven Lapp, "Risk Mitigation in a Supply Chain Infrastructure Using Fault Tree Optimization", INFORMS (San Francisco, CA), November 2014.
- **Sherwin, Michael**, "Supply Chain Risk Identification and Mitigation", Chatham University (Pittsburgh, PA), December 2015.
- **Sherwin, Michael**, "Supplier Quality Risk Mitigation Tools: Control Plans, Risk-Based Oversight (Supplier Risk Assessment, Component/Service Risk Assessment, Gate Reviews) and Audit Process Standardization Checklist", COLIBE (Pittsburgh, PA), October 2014.
- **Sherwin, Michael**, "Failure Modes and Effects Analysis", American Society for Quality (Pittsburgh, PA), March 2011.
- **Sherwin, Michael**, "Identifying Process Inefficiencies", American Society for Quality (Pittsburgh, PA), February 2010.

SERVICE

Institute for Industrial and Systems Engineers (IISE)

- Academic Affairs Chair, Northeast Region (#1), Pittsburgh Chapter (#3) 2022 – Present
- Track Co-Chair, 2022 IISE Annual Conference 2021 – Present
- University Connect Community Ambassador 2021 – Present
- Faculty Advisor, Northeast Region, University of Pittsburgh Student Chapter 2020 – Present
- Member, Mini-Certificate Development Committee 2020 – Present
- Board Member, Logistics and Supply Chain Division 2019 – Present
- Judge, 2021 Logistics and Supply Chain Division Student Case Competition 2021
- Judge, 2021 Logistics and Supply Chain Division Best Paper Award 2021
- Paper Reviewer, 2021 IISE Annual Conference 2021
- Panelist, IISE Pittsburgh Chapter Career Industry Panel 2020
- 2020 IISE Annual Conference Organizing Committee 2019 – 2020

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- 2020 IISE Annual Conference Abstract Review Committee 2019 – 2020
- Track Chair, 2020 IISE Annual Conference 2020
- Session Chair, 2020 IISE Annual Conference 2020
- Session Chair, 2017 Industrial and Systems Research Conference 2017
- Paper Reviewer, 2017 IISE Annual Conference 2017

American Society for Engineering Education (ASEE)

- Paper Reviewer, Faculty Development Division, 2022 ASEE Annual Conference 2021 – 2022
- Paper Reviewer, Faculty Development Division, 2021 ASEE Annual Conference 2020 – 2021
- Session Moderator, 2020 ASEE Annual (Virtual) Conference 2020

American Society for Quality

- Certified Instructor, Lean Six Sigma Green Belt 2021 – Present
- Certified Instructor, Lean Six Sigma Black Belt 2021 – Present
- Certified Instructor, Lean Six Sigma Yellow Belt 2021 – Present
- Certified Instructor, Quality 101 2021 – Present
- Six Sigma Subject Matter Expert, Six Sigma Body of Knowledge 2020 – Present
- Member 2011 – Present
- Pittsburgh Section, Youth Outreach Chair 2011 – 2012
- Pittsburgh Section, Healthcare Conference Finance Chair 2010

Mars Area School District

- Member, Gifted Education Advisory Board 2021 – Present

Non-Profit Consulting and Collaboration

- Off the Floor Pittsburgh 2020 – 2021

University of Pittsburgh

- Planning Committee, *Race to the Case* Case Study Competition 2021 – Present
- COVID-19 Senior Check-in Program Team Member 2020

Urban League of Greater Pittsburgh

- COVID-19 Housing Assistance Program Volunteer 2020

Institute for Operations Research and Management Science (INFORMS)

- Session Chair, Supply Chain Management 2018
- Session Chair, Supply Chain Risk and Disruptions 2017

Institute for Supply Management

- Academic Advisory Council 2016 – 2018

European Journal of Production Economics

Michael D. Sherwin

- Manuscript Review 2015 – Present

European Journal of Operational Research

- Manuscript Review 2018 – Present

Chatham University, MBA Program Capstone Project

- Panel Judge, BUS 577 (Information Systems and Analytics) 2015

Penn State University, Industrial and Manufacturing Engineering Society

- Mentoring Committee Chair 2009 – 2010
- President 2006 – 2008
- Board Member 2006 – 2013

Nuclear Industry Assessment Committee (NIAC)

- Alternate Representative 2014 – 2017

Mars Baseball and Fastpitch Association

- Assistant Baseball Coach, Travel Team 2019 – Present
- Head Baseball Coach, In-House Team 2019 – Present
- Assistant Baseball Coach, In-House Team 2016 – 2018

Mars Youth Basketball Association

- Assistant Basketball Coach, Boys Travel Team 2021 – Present
- Volunteer, Girls Basketball Development Program 2021 – Present

i9 Flag Football

- Head Football Coach 2021 – Present

CONSULTING

- Xper 2021 – Present
- WG Tomko 2021 – Present
- CP Industries 2021
- Hi-Power 2021
- JSP 2021
- American Textiles (pro bono) 2021
- Clark Associates (pro bono) 2021
- Chatham University 2019 – 2020

MENTORING

University of Pittsburgh

- Mentor educational research for one (1) undergraduate Industrial Engineering student.
- Serve as the academic advisor to four (4) undergraduate Industrial Engineering students per semester.
- Senior Design Capstone Course
 - Spring 2022: Maintenance Operations and Inventory Management (Mars Area School District)
 - Fall 2021: Lot Traceability and Shelf-Life Control (IDL)
 - Spring 2021: Design Release Process (MECCO)
 - Spring 2021: Warehouse Layout (University of Pittsburgh, Business and Auxiliary Services)
 - Fall 2020: Supply Chain Risk Management (MECCO)
 - Fall 2020: Optimize Warehouse Operations (Phantom Fireworks)
 - Summer 2020: Improve Manufacturing Yield Performance (Perfection Pet Foods)
 - Summer 2020: Supply Chain Risk Management (GA Industries)
 - Spring 2021: Manufacturing Cell Layout and Simulation (PPG Industries)

Mississippi State University

- Oversaw and directed the work of two (2) undergraduate researchers remotely.

Curtiss Wright

- Served as mentor for two (2) junior employees and assisted in their career development activities.
- Advised Six Sigma Green Belt candidates in the capacity of the division's Six Sigma Black Belt.
- Mentored eight (8) co-operative education students in the areas of Operational Excellence, Quality Assurance Engineering, and Supplier Quality.

AWARDS AND HONORS

- Gold Award Recipient, presented by the Institute of Industrial and Systems Engineers to the University of Pittsburgh Student Chapter (867), 2020-2021
- New IE Educator Outstanding Paper, American Society of Engineering Education for the paper, "Effects of Pedagogical Changes to an Engineering Capstone Course During the COVID-19 Pandemic" 2021
- Outstanding Regional Faculty Advisor Award – Northeast Region, Institute of Industrial and Systems Engineers, 2020
- Honorable Mention Best Paper, IISE Transactions Focus Issue on Scheduling and Logistics for the paper, "Identifying and mitigating supply chain risks using fault tree optimization", 2020
- Initiated into the Order of the Engineer, 2018
- Mississippi State University, J. Ron Walsh Outstanding Industrial Engineering Graduate Student, 2017
- Mississippi State University Bagley College of Engineering Travel Award, 2015
- Mississippi State University Bagley College of Engineering Travel Award, 2014
- Kennametal Value Business System Award: Product Development Technical Excellence, 2009

- Kennametal Advanced Materials Solutions Group Excellence in Leadership Award, 2008

PROFESSIONAL TRAINING AND CERTIFICATIONS

- Licensed Training Partner, American Society for Quality
- Registered Professional Engineer, Commonwealth of Pennsylvania (PE084940)
- Certified Six Sigma Black Belt, American Society for Quality (9963)
- Curtiss-Wright Way Level I Practitioner
- ASME NQA-1 Qualified Lead Auditor, American Society of Mechanical Engineers
- Certified Quality Function Deployment Greenbelt, QFD Institute
- Certified Failure Modes and Effects Analysis Greenbelt, Kennametal Lean Enterprise
- Certified Six Sigma Greenbelt, Kennametal Lean Enterprise
- Certified Quality Function Deployment Greenbelt, Kennametal Lean Enterprise
- Graduate, Center for Creative Leadership, Kennametal High Potential Class
- Dale Carnegie Leadership Training