

Hui Zhao

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Smeal College of Business
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Updated: Sept. 2021

ACADEMIC EXPERIENCE

The Pennsylvania State University, Smeal College of Business, University Park, Pennsylvania 2012-present

- Associate Professor of Supply Chain Management 2015-present
- Charles and Lilian Binder Faculty Fellow 2016-present
- PhD Program Coordinator, Supply Chain and Information Systems Department 2016-2021
- Core Affiliated Faculty, NSF Center for Health Organization Transformation at Penn State 2015-present
- Faculty member, The National Institute for Innovation in Manufacturing Biopharmaceuticals, Penn State Team 2016-2017
- Assistant Professor of Supply Chain Management 2012-2015

Purdue University, Krannert School of Management, West Lafayette, Indiana

- Assistant Professor of Management 2003-2012
- Affiliated faculty member, Regenstrief Center for Healthcare Engineering, Discovery Park 2009-2012

EDUCATION

Purdue University, Department of Industrial Engineering, West Lafayette, Indiana

Ph.D. in Industrial Engineering, August 2003

- Dissertation: *Managing Service Parts Logistics: Inventory Sharing and Rationing in Decentralized Distribution Networks*

M.S. in Industrial Engineering, December 2002

Purdue University, Krannert Graduate School of Management, West Lafayette, Indiana

Certificate in Applied Management Principles (Mini-MBA), May 2001

Tianjin University, Tianjin, China

M.S. in Mechanical Manufacturing Engineering, March 1997

- Thesis: The Development of a Knowledge-Based Expert System

B.S. in Mechanical Manufacturing Engineering, July 1994

B.S. in Industrial Economics and Systems Engineering, School of Management, July 1994

AWARDS AND HONORS

- U.S. Patent No. [10,672,048](#) granted 2020, “System and method for determining the legitimacy of online pharmacies”.
- Finalist, Industry Studies Association Dissertation award for PhD student Liang Xu’s dissertation entitled “Studies on the Emerging Challenges of Innovations in the US Pharmaceutical Supply Chain”. 2020.
- Runner up (second place), Ralph Gomory Best Industry Studies Paper Award, Industry Studies Association (ISA), 2018, for the paper “Mitigating the U.S. Drug Shortages Through Pareto-Improving Contracts”.
- Winner, Smeal commercialization research award for the work “Using Web Analytics and Predictive Models to Manage Illicit Online Pharmacies”. Farrell Center for Corporate Innovation and Entrepreneurship and Penn State Fund for Innovation. 2017.
- Finalist, Pierskalla Award for Healthcare Research, Health Applications Society at INFORMS, for the paper “Mitigating the U.S. Drug Shortages Through Pareto-Improving Contracts”. 2015.
- Distinguished MBA teacher, Fall 2006, 2007, 2008, 2010. Krannert School of Management, Purdue University.

RESEARCH

1. Research Interests

- Pharmaceutical/Healthcare Supply Chains
- Health Public Policy
- Healthcare System Innovations
- Collaboration and Information Sharing in Decentralized Supply Chains

2. Highlights of Research Impact

- Research on Drug shortages:
 - Invited to present research on mitigating the US Drug Shortages to FDA/HHS (the US Department of Health and Human Services) in July 2014 in Washington DC. Immediately following this, FDA presented our research results in the FDA drug shortage stakeholders national meeting for wider discussion. After the discussion, FDA connected us with top GPOs (group purchasing organizations) for discussion of potential implementation.
 - In Sept. 2018, invited again by FDA as one of the 4 expert panelists for a [FDA drug shortages taskforce listening session](#) in Washington DC. The other three panelists are from MIT economics, Duke center for health policy, and Johns Hopkins pharmacy practice, respectively. This listening session was attended by more than a dozen members of the task force, led by Keagan Lenihan, FDA’s Associate Commissioner for Strategic Initiatives, and including federal officials from HHS, the Department of Veterans Affairs, and the Department of Defense. Following the listening session, FDA requested and circulated my research paper and cited it in FDA drug shortage report (2020).
 - Research work on drug shortages won the runner up (second place) for the best industry studies paper by [ISA 2018](#) (which is committed to rigorous research grounded in deep understanding of industries and their challenges). This work was also a finalist in 2015 for the well-recognized Pierskalla Award organized by the Health Applications Society of INFORMS.
 - Invited for a 25-min [Podcast](#) on “Drug shortages, pandemic, and their impact on the US healthcare system” with [FreightWaves](#) (the #1-traffic supply chain and logistics news site), April, 2021. Additional [news story](#).

- Research on Illicit Online Pharmacies:
 - Invited to collaborate with FDA and present in the Third Online Opioid Summit (invitation only) in September 2021, hosted by FDA and aimed at finding innovative solutions to combat IOPs and the opioid crisis. Information about the first and second summits can be found [here](#).
 - Invited to speak on “Coping with illicit online pharmacies through analytics” at the Alliance for Safe Online Pharmacies Global (US, EU, Canada) Annual All-hands Strategy Meeting, Nov. 2020. Other speakers include the US National Association of Boards of Pharmacy, Office of the Intellectual Property Enforcement Coordinator at the Executive Office of the President, UK Medicines and Healthcare products Regulatory Agency, Advisor for Drug Policy at Public Safety Canada, etc. This work has also attracted much media attention ([Penn State News](#), [Science Daily](#), [MashupMD](#), [Pharmacy Times](#), [News Medical](#)).
 - Technology developed in this work was granted U.S. Patent No. [10,672,048](#) in 2020.
- Selected as an expert interviewee by MITRE for the Research Project with the U.S. Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR) on “Understanding threats to the US public health and healthcare infrastructure over the next five to ten years”. Dec. 2019.
- Due to the research on tele-health systems, invited to participate, as a co-investigator (Evaluation and Research) for the Penn State [Sexual Assault Forensic Examination Telehealth Center \(SAFE-T Center\)](#), in the SAFE-T center State Advisory Meeting for a discussion with Pennsylvania senator Vogel and his team on potential legislation to enhance quality care for sexual assault victims, including rural areas. May 2021.
- Invited by INFORMS Communications and Outreach for an expert interview on supply chain of prescription drugs, August 2021.
- Served as a co-lead on the pharmaceutical industry sub-team for the Artificial Intelligence in Healthcare Initiative, a joint effort by Xavier health and FDA. 2017-2018.
- Paper “The Impact of Overbooking on Primary Care Patient No-show” (Zeng, et al. 2013) was selected as a featured article for Industrial Engineers Magazine in Oct. 2013 sent to all IIE (Institute of Industrial Engineers) members including many practitioners due to its new insights and contribution.
- Collaboration with PEW Research Foundation (Washington DC), a research foundation working closely with FDA aiming at research having policy implications, 2015-2017.

3. Refereed Journal Articles

- Xu, L., H. Li, H. Zhao. 2021. Outcome-Based Reimbursement: Solution to High Drug Spending? *Manufacturing & Services Operations Management*. Forthcoming.
- Zhu, X., Ninh, A., H. Zhao, Z. Liu. 2021. Demand Forecasting With Supply Chain Information and Machine Learning: Evidence in the Pharmaceutical Industry. *Production and Operations Management*. 30(9). 3231-3252.
- Xu, L., H. Zhao, N. Petruzzi. 2021. Inducing Compliance with Post-market Study for Drugs under FDA’s Accelerated Approval Pathway. *Manufacturing & Services Operations Management*. 23. 170-190.
 - This work was invited for presentation at FDA Sept. 2018.
 - This paper was [featured in INFORMS media coverage](#).

- Zhao, H., L. Xu. E. Siemsen. 2021. Behavioral Inventory Sharing. *Manufacturing & Services Operations Management*. 23(5), 1217-1236.
- Zhao, H., S. Muthupandi, S. Kumara. 2020. Managing Illicit Online Pharmacies: Web Analytics and Predictive Models Study. *Journal of Medical Internet Research* 22(8):e17239 DOI: [10.2196/17239](https://doi.org/10.2196/17239)
 - The methodology developed in this paper was granted a U.S. patent No. [10,672,048](https://patents.google.com/patent/10672048)
 - This journal is [ranked #1 in Health informatics by Google scholar](#).
 - Invited to present this research at the Third Online Opioid Summit (invited-attendance only) in September 2021, hosted by FDA. Sept. 2021.
 - Invited to present this research at the Alliance for Safe Online Pharmacies Global (US, EU, Canada) Annual All-hands Strategy Meeting. Nov. 2020.
 - Media coverage: [Penn State News](#), [Science Daily](#), [MashupMD](#), [Pharmacy Times](#), [News Medical](#).
- Jia, Z., H. Zhao. 2019. Reflection on “Mitigating the U.S. Drug Shortages through Pareto-Improving Contracts”. *Production and Operations Management*. 28(11), 2716-2718.
- Jia, Z. and H. Zhao, 2017. Mitigating the U.S. Drug Shortages Through Pareto-Improving Contracts. *Production and Operations Management*. 26 (8). 1463-1480.
 - Runner up, Ralph Gomory Best Industry Studies Paper Award, awarded by Industry Studies Association (ISA), 2017.
 - Finalist, Pierskalla Award 2015, the prestigious healthcare research award by INFORMS.
 - Invited by US Department of Health and Human Services (HHS) to present this work in Washington DC in July 2014 and later invited by FDA drug shortages task force to present again at the expert listening session in 2018.
 - This paper was requested and circulated among the FDA drug shortage task force in 2018 and the proposed solution was mentioned in FDA drug shortage report and FDA commissioner’s presentation on drug shortages in 2018.
- Yan, X., H. Zhao, K. Tang, 2015. Requirement or Promise? Quality-Based Supplier Selection with Quality Improvement. *Production and Operations Management*. 24 (6), 917–933.
- Yan, X., H. Zhao, 2015, “Inventory Collaboration and Coordination among n-Independent Retailers with Asymmetry Demand Information”. *European Journal of Operational Research*. 243(2). 576–587.
- Zeng, B., H. Zhao, M. Lawley, 2013. “The Impact of Overbooking on Primary Care Patient No-show”. *IIE Transaction on Healthcare Systems Engineering*. 3, 147-170.
 - This paper was selected as a featured article for Industrial Engineers Magazine in Oct. 2013, sent to all IIE (Institute of Industrial Engineers) members including many practitioners due to its new insights and contribution.
- Zhao, H., C. Xiong, S. Gavirneni, A. Fein, 2012. “Fee-For-Service Contracts in Pharmaceutical Distribution Supply Chains: Design, Analysis, and Management”, *Manufacturing & Service Operations Management*. 14(4) 685-699.
 - Research in this paper has been used by top consultants such as Pembroke Consulting Firm for pharma FFS contracts implementation.
- Yan, X. and H. Zhao, 2011, “Decentralized Inventory Sharing with Asymmetric Information”, *Operations Research*. 59(6). 1528-1538.

- Schwarz, L. and H. Zhao, 2011, “The Unexpected Impact of Information-Sharing on US Pharmaceutical Supply-Chains”, *Interfaces (now called INFORMS journal of Applied Analytics)*, Jul./Aug. 41:354-364.
- Zhao, H., and A. Bisi, 2010, “Optimal Operating Policies in A Commodity Trading Market with the Manufacturer’s Presence”, *Naval Research Logistics*, 57(2), 127-148.
- Zhao, H., J. K. Ryan, and V. Deshpande, 2008, “Optimal Dynamic Production and Inventory Transshipment Policies for A Two-Location Make-to-Stock System”, *Operations Research*, 56 (2), 400-410
- Zhao, H., V. Deshpande, and J. K. Ryan, 2006, “Emergency Transshipment in Decentralized Dealer Networks: When to Send and Accept Transshipment Requests”, *Naval Research Logistics*, Vol. 53, 547-567.
- Zhao, H., V. Deshpande, J.K. Ryan, 2005, “Inventory Sharing and Rationing in Decentralized Dealer Networks”, *Management Science*, 51(4), 531-547.

4. Invited Refereed Book Chapters

- Cho, S.H., H. Zhao. “Healthcare Supply Chains”, 2018. Handbook of Healthcare Analytics: *Theoretical Minimum for Conducting 21st Century Research on Healthcare Operations*. Edited by Sridhar Tayur and Tinglong Dai. Published by John Wiley & Sons.
- Zhao, H. “Supply Chain Optimization in Healthcare”, 2016. Advances and Trends in Optimization with Engineering Applications, edited by T. Terlaky, M. Anjos, and S. Ahmed, Published by SIAM.

5. Refereed Proceedings

- Zhao, H., 2001, “Simulation and Analysis of Dealer Returns Distribution Strategy”, *proceedings of the 2001 Winter Simulation Conference*, pp.1109-1116, Arlington, Virginia, December 9-12, 2001.

6. Published Case:

- From Stuffing to Streamlining: Pharmaceutical Distribution. *Darden Case F-1859*. 2019. This case provides understanding of the pharmaceutical supply chain business models and looks at the unexpected value of information sharing in pharmaceutical supply chains. Students are provided with data for industry-level analysis.

7. Manuscripts In Review and Working Papers

- Xu., L., V. Mani, H. Zhao. 2021. Not a Box of Nuts and Bolts: Distribution Channel Decisions for Specialty Drugs. Under revision.
- Zhao, X., Z. Jia, H. Zhao. 2021. Drug Reimbursement Policy and Its Linkage to Drug Shortages. Under revision.
- Jin, L., H. Zhao. Design of a B2B Tele-health System. *In preparation for submission*.
- H. Zhao, Evaluating Interventions to Mitigate the US Drug Shortages. With I. Noh and S. Naumov. 2021. *Working paper*.

- Yu, Y., C. Tucker, H. Zhao, H. Nembhard. The Cost-Effectiveness of Total Hip Arthroplasty for Patient Subgroups. *Working paper*.
- Okajima, H., H. Zhao, and S. Xu. Dynamic Dual Capacity Sourcing for New Drugs. *Working paper*.
- Zhao, H., X. Zhang, F. Pan, and K. Tang, The Impact of Competition on Manager Compensation: Theory and Evidence in Hedge Funds. *Working paper*.

8. Journal Editorship

- Associate Editor, *Manufacturing & Service Operations Management*. Jan. 2021 - present
- Senior Editor, *Production and Operations Management*. Apr. 2020 - present
- Associate Editor, *Naval Research Logistics*. Healthcare. Jun. 2019 - present
- Associate Editor, *Decision Sciences*. Jan. 2018 - present

9. Funded Research

- Co-Investigator: Implementing the SAFE-T System: Improving Access to Quality Care for Victims of Sexual Assault Through Telehealth, Collaboration with School of Nursing, Pennsylvania Sexual Assault Forensic Examination and Telehealth (SAFE-T) Center. Funding agency: the US Department of Justice. 2022-2024. Total requested: \$1Million. *Pending*.
- Core faculty: An Innovative Telehealth Model for Sexual Assault and Forensic Examination – a virtual tele-forensic program. Collaboration with Pennsylvania Sexual Assault Forensic Examination and Telehealth (SAFE-T) Center. Funded by the US Department of Justice. 2018-2021. Total: \$3 Million.
- PI: The Effectiveness of Substance Abuse Treatment Services in Combating the Opioid Crisis. Funded by the National Science Foundation Center for Health Organization Transformation at Penn State. 2018-2019. \$25,000.
- PI: Tracking Online Pharmacies Through Web Analytics and Predictive Modeling. Smeal Commercialization of Research (SCOR) Grant. Farrell Center for Corporate Innovation and Entrepreneurship, and Penn State Fund for Innovation. 2017-2018. \$30,000.
- Core faculty: The Impact of the Drug Supply Chain Security Act (DSCSA) on the Pharmaceutical Supply Chain. 2017. Sponsored research by CVS. Total: \$112,929.
- PI: Small research grants, Smeal College of Business, \$1500-2000. 2014, 2016.
- Co-PI: Modeling the Supply Chains for Healthcare Products, with L. Schwarz and V. Deshpande, Regenstrief Center for Healthcare Engineering, Purdue University. 2009-2010. Total \$50,000.
- PI: Purdue Research Foundation Fellowship, 2006-2007. \$30,000.
- International travel award, 2005, 2006, Purdue University.

10. Invited Talks

- Indian School of Business, 2022
- FDA, The Third Online Opioid Summit, 2021
- The Alliance for Safe Online Pharmacies Global (ASOP US, EU, Canada) Annual All-hands Strategy Meeting, 2020.
- College of Business, University of Nebraska-Lincoln, 2020
- Haas School of Business, University of California Berkeley, 2019
- Business School, National University of Singapore, 2019

- **Keynote speaker**, the 5th International Workshop on Supply Chain Management and Express Logistics. University of Science and Technology of China, 2019
- China Europe International Business School, Shanghai, 2019
- Shanghai Jiaotong University, Shanghai, 2019
- Fudan University, Shanghai, 2019
- Combined seminar for Business School and Industrial Engineering, Hong Kong University of Science of Technology, 2019
- Business School, Hong Kong University, 2019
- Business School, Hong Kong Chinese University, Hong Kong, 2019
- College of Business, Hong Kong City University, 2019
- Faculty of Business, Hong Kong Polytech University, 2019
- Rutgers Business School, Supply Chain Management, Rutgers, 2018
- Schar School of Policy and Government, George Mason University, 2018
- Business School, Hong Kong Chinese University ShenZhen, 2018
- The US FDA (Food and Drug Administration) and HHS (The US Department of Health and Human Services), 2014, 2018
- College of Business, Sun Yat-Sen University, 2017
- School of Management and Economics, Tianjin University, 2017
- School of Management, Huazhong University of Science and Technology, 2017
- School of Economics and Management, Peking University, 2017
- Department of Applied Math, College of William and Mary, 2016
- Industrial Engineering, Tsinghua University, 2016
- College of Business, Renmin University, 2016
- School of Industrial Engineering, University of Pittsburgh, 2016
- Marshall School of Business, University of Southern California, 2015
- Robert H. Smith School of Business, University of Maryland, 2015
- Johnson School of Business, Cornell University, 2015
- Carlson School of Management, University of Minnesota, 2014
- W.P. Carey School of Business, Arizona State University, 2014
- LeBow College of Business, Drexel University, 2013
- Department of Industrial Engineering, Penn State University 2013, 2015, 2017, 2019
- Kelley School of Business, Indiana University Bloomington, 2012
- FDA/Xavior Healthcare Global Outsourcing Conference for pharmaceutical industry, 2012.
- China Pharmaceutical Executive Delegation, Purdue University, 2008
- School of Business, University of Miami, 2003
- School of Business, University of Wisconsin Madison, 2003
- Mendoza College of Business, University of Notre Dame, 2003
- Department of Industrial Engineering, Northwestern University, 2002
- Department of Industrial Engineering, University of Illinois, Urbana-Champaign, 2002

11. Students Advising

Doctoral Dissertation Chair/Co-chair:

- Chair: Ziheng “Archie” Zhuang, Smeal College of Business, Penn State University. 2020-present.
- Chair: Liang “Leon” Xu (August 2019), Smeal College of Business, Penn State University. Current position: Assistant Professor, School of Business, University of Nebraska, Lincoln.
 - Finalist, Industry Studies Association Dissertation award 2020. Dissertation title “Studies on the Emerging Challenges of Innovations in the US Pharmaceutical Supply Chain”.

- Co-chair: Hiroko Okajima (September 2013), Smeal College of Business, Penn State University.
Current Position: Assistant Professor, Towson University, Maryland.
- Co-chair: Fei Pan (May 2010), Krannert School of Management, Purdue University.
Current Position: Chairman of the Board and CEO, Surpass Sun Electric Co. Ltd (SSE).
- Co-chair: Xinghao Yan (May 2009), Krannert School of Management, Purdue University.
Initial placement: Assistant Professor, Richard Ivey School of Business, The University of Western Ontario.
Current position: Associate Professor, School of Business, University of Toledo.

Doctoral committee member:

- Core Committee Member: Lan Jin, Industrial Engineering, Penn State, ongoing.
- Core Committee Member: Qianyu Hu, Industrial Engineering, Penn State, ongoing.
- Committee Member: Seth Hostetler, Industrial Engineering, Penn State, ongoing.
- Core Committee Member: Chuanhui “Charles” Xiong (August 2011), Krannert School of Management, Purdue University.
Current Position: Associate Professor, School of Business, University of North Carolina at Pembroke
- Committee member: Jamie Wieland (August 2008), School of Industrial Engineering, Purdue University.
Current position: Associate Professor, College of Business, Illinois State University.

Master's Thesis Committee Member

- Muthupandi, S. Industrial Engineering, Penn State. (2016-2017).

Undergraduate Research Advisor

- Smeal Sapphire Team (Smeal College of Business honored students’ team), "Establish a Financially Sustainable Plan for the Penn State Safe-T Telehealth Center to Help Sexual Assaulted Victims" (January 2018 - May 2018). In Collaboration with School of Nursing.

12. Professional Society Involvement and Services

Conference Organizer

- Cluster Co-chair (with Steve Chick), INFORMS Health Applications Society (HAS) sponsored cluster, INFORMS annual conference, California, Oct. 2021. Organized 60+ sessions, including panels, distinguished lectures, special sessions, and general sessions.
- Cluster Co-chair (with Burhan Sandikci), INFORMS MSOM Healthcare Operations Management (HOM) SIG sponsored cluster, INFORMS annual conference, Washington DC, 2020. Organized 20+ sessions and a special session with 5 FDA staff presenting their research work.
- Cluster Co-chair (with Mark Van Oyen), INFORMS Health Applications Society sponsored cluster, INFORMS annual conference, Seattle, Oct. 2019. Organized 70+ sessions, including panels, distinguished lectures, special sessions, and general sessions.
- Track Chair, Healthcare track (invited and contributed), POMS International Conference in China, Tianjin, June 2019.
- Cluster Co-Chair (with Tinglong Dai), Healthcare Systems and Applications sponsored cluster, INFORMS International conference, Taipei, June 2018.
- Track Chair (with Guoming Lai), Business Analytics, DSI Annual conference, Austin, Dec. 2016.
- Co-chair, Decision Science Institute Annual Conference Best Paper Award, 2013.
- Invited Session Chair:
 - INFORMS Annual Conferences 2002-2003, 2007-2009, 2012-2015, 2018, 2020.

- POMS Annual Conference 2011, 2012, 2015, 2018.
- INFORMS healthcare conference 2013.

Professional Society Position, Special Services, and Membership

- INFORMS Health Applications Society (HAS) Officer: Coordinator of Outreach and Communications. Two terms. Jan. 2019 - Dec. 2020.
- Panelist, *Challenges and opportunities for women faculty in Management Science and Operations Management*. 2017. CSAMSE annual conference.
- Panelist, *Work-life balance for women faculty in Management Science and Operations Management*. 2016. CSAMSE annual conference.
- Member of INFORMS (Institute for Operations Research and the Management Sciences), MSOM (Manufacturing and Service Operations Management Society) and Health Applications Society under INFORMS, and POMS (Production and Operations Management Society) and College of Supply Chain Management and College of Healthcare Operations Management under POMS. 2003-present
- Faculty Advisor, INFORMS Purdue Student Chapter, 2003-2012.

Review panel

- INFORMS Health Applications Society student paper competition, 2016-2021
- Judge for best paper competition at the Thirteenth International Conference of CSAMSE, 2021
- Invited to review for Israel Science Foundation, 2021
- Junior Faculty Best Paper award, INFORMS annual conference 2020
- Research Grants Council (RGC) of Hong Kong, 2020 (x2)
- Pierskalla paper competition for healthcare research, INFORMS Health Applications Society, 2018, 2020
- Maryland Industrial Partnerships Program Proposal Review, 2018
- POM Student Paper Competition, 2015, 2016
- MSOM conference, 2015, 2016
- National Science Foundation, 2015

Recent conference presentations (Invited or Refereed, 2009 - current)

- INFORMS Annual Conference. Anaheim, Oct. 2021
 - Moderator, panel on “Communicating with Stakeholders in Healthcare to Make An Impact”
 - Invited presentation
- INFORMS Annual Conference. Seattle, Oct. 2019
- INFORMS International Taipei. Jun. 17-20, 2018.
- INFORMS Annual conference. Houston, Oct. 22-25, 2017.
- POMS Annual Conference. Orlando, Florida, May 2016.
- POMS Annual Conference, Washington D.C. May 2015
- INFORMS Annual Conference. San Francisco. November 2014.
 - Invited presentation in Susan Xu Memorial Session: *Accelerating Phase I Clinical Trial through Efficient Patient Recruitment*.
- POMS Annual Conference, Atlanta, GA, May 2014
- INFORMS Annual Conference. Minneapolis, MN, Oct. 2013.
- INFORMS Healthcare Conference, Chicago, IL, Jun. 2013
- INFORMS Annual Conference. Phoenix, AZ, Oct. 2012
- FDA/Xavior Healthcare Global Outsourcing Conference for pharmaceutical industry, Sept. 2012
- POMS Annual Conference, Chicago, IL, Apr. 2012
- INFORMS Annual Conference. Charlotte, NC, Nov. 2011
- IQPC (International Quality and Production Center) Pharmaceutical Distribution Conference, Philadelphia, PA, Jul. 2011

- MSOM Annual Conference. Selected for Healthcare SIG. University of Michigan, MI, Jun. 2011
- POMS Annual Conference, Reno, NV, Apr. 2011
- INFORMS Annual Conference, Austin, TX, Oct. 2010
- INFORMS Annual Conference, San Diego, Oct. 2009
- MSOM Annual Conference. MIT. Jun. 2009

TEACHING

1. Course Development

- Research Topics in Healthcare: This is a Phd level course developed to introduce the healthcare research in the supply chain and operations management field, with a focus on helping students appreciate key components of quality research work and identifying interested areas of research. 2021.
- Supply Chain Analytics (Virtual): Reconfigured this undergraduate core course for COVID-19 compatibility. Redeveloped instructional activities to leverage both asynchronous and synchronous learning. 2021.
- Supply Chain Strategies for the C-Suite: EMBA elective. This course identifies key challenges in supply chains and provides solutions and/or best practices to businesses/organizations to gain competitive advantages. Developed content and pedagogy. 2020.
- Business Analytics, undergraduate core. 2013
- Business Analytics: MBA core. 2011. Focused on descriptive, predictive, and prescriptive analytics geared toward business decision making.
- Incentives and Information Asymmetry & Pharmaceutical Supply Chains: This Phd level course focuses on research related to information sharing, impact of asymmetric information, and mechanism design. The second half of the course aims at understanding the pharma/healthcare supply chains and developing research ideas in this area using the skills learned in the first half of the course. 2009.

2. Teaching Experience

Smeal College of Business, Penn State University

EMBA Elective:

BA597 – Supply Chain Strategies for the C-Suite (Summer 2020, Fall 2021)

Undergraduate core:

SCM 421 – Supply Chain Analytics (Spring 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020, 2021)

PhD course:

SCIS 597 – Special Topics (2016, 2017, 2018, 2020)

SCIS 597 – Research in Healthcare Systems and Healthcare/Pharmaceutical Supply Chain (Spring 2022)

Krannert School of Management, Purdue University

MBA core:

Mgmt 670 – Business Analytics (Fall 2010, 2011)

Mgmt 670 – Quantitative Methods for Business I (Fall 2006, 2007, 2008)

Mgmt 671 – Quantitative Methods for Business II (Fall 2006)

Undergraduate core:

Mgmt 306 – Management Science (Spring 2004, 2005, 2007, 2008, 2009, 2010, 2011, 2012)

PhD course:

Mgmt 690 – Incentives and Information Asymmetry & Pharmaceutical Supply Chains (Spring 2009)

Discovery Park, Purdue University

Guest lectures on Pharmaceutical Distribution Supply Chains for China Pharmaceutical Executive Delegation to Purdue. 2008.

School of Industrial Engineering, Purdue University

IE383 – Integrated Production Systems (Fall 2002)

INDUSTRY EXPERIENCE

- Research Analyst, Caterpillar Inc., Distribution and Logistics Strategy and Development, Morton, IL (May – August 2000)
 - Project on CP (contract packaging) balancing leads to an estimated savings of \$3M.
- Consultant, Technical Assistance Program, Production systems and industrial engineering area, Purdue University (May 1999 - August 2001)
 - Provided consulting services to Indiana small- and mid-sized businesses.
- Process Engineer, Procter & Gamble Personal Cleansing LTD. Tianjin, China (March - June 1997)

ACADEMIC SERVICES

- Services to University/College/Department
 - Penn State University
 - Schreyer honor college application reader, 2021.
 - Member, Academic Administrative Evaluation Committee for the Office of the Dean of the Smeal College of Business, 2017
 - Smeal College of Business
 - Member, Smeal Graduate Policy Committee, 2017-2021
 - Member, Smeal College Academic Integrity Committee, 2014-2019
 - Member, SC&IS Department Chair Search Committee, 2019-2020
 - Member, Smeal College Promotion & Tenure Committee, 2016-2017
 - Business Analytics Implementation Task Force, 2014.
 - Coordinator, Smeal College Susan Xu Memorial Service Planning Committee, 2014.
 - Supply Chain & Information Systems (SC&IS) Department
 - SC&IS PhD Program Coordinator, 2016- 2021
 - Elected chair, SC&IS Department Promotion & Tenure Committee, 2019-2020
 - Member, SC&IS Department Promotion & Tenure Committee, 2017-2019, 2020-2021
 - Chair, SC&IS PhD Admission Committee, 2016-2020
 - Chair, SC&IS PhD students qualifying exam and second-year paper evaluation committee, 2016-2020
 - SC&IS Department peer teaching evaluator, 2015-present
 - SC&IS Department Faculty Search Committee, 2014, 2015, 2017, 2019
 - Member, SC&IS PhD Admission Committee, 2012- 2015
 - SC&IS Department PhD candidacy Committee, 2013
 - Faculty advisor, Teach for China, Penn State chapter (a non-profit organization for equal learning opportunities in Rural China). 2018-2019.

- Krannert School of Management, Purdue University (2005-2011)
 - Faculty advisor for Krannert Chinese Business Association
 - Faculty mentor for students from the PharmD/MSIA program (a joint program between Krannert School of Management and the School of Pharmacy)
 - PhD admission committee
 - Faculty STAR committee
- Other Important Activities
 - Featured faculty in Smeal alumni magazine to write about “The Disruption of America’s Supply Chain: What Happened and What Have We Learned?”. Summer 2021.
 - Featured faculty in Smeal Center for Supply Chain Research newsletter, summer 2021.
 - Faculty spotlight, Women in Supply Chain, Smeal college of business, summer 2021.

GOVERNMENT/INDUSTRY ENGAGEMENT

- Collaborated with RISCS (an organization committed to mitigating drug shortages through quality rating) to respond to the public commenting on USP General Chapter <1083> Supplier Qualification. USP is an established (200 years) independent, scientific nonprofit organization focused on building trust in the supply of safe, quality medicines, 2021.
- Invited to collaborate with FDA and present in the Third Online Opioid Summit (invited attendance only) in Sept. 2021, hosted by FDA and aimed at finding innovative solutions to combat illicit online pharmacies and the opioid crisis.
- Invited to speak on coping with online illicit pharmacies through web analytics in the Alliance for Safe Online Pharmacies Global (US, EU, Canada) Annual All-hands Strategy Meeting, Nov. 2020.
- Invited by FDA to present on Assuring Compliance of Post-market Study for Drugs Approved Through Accelerated Pathway in Washington DC, Sept. 2018.
- Served as one of the 4 panelists in the expert listening session organized by FDA drug shortages task force, Sept. 2018. The other three panelists are from MIT economics, Duke center for health policy, and Johns Hopkins pharmacy practice.
- Invited by FDA to present research on drug shortages in Washington DC, July 2014.
- Team Co-leader: Continuous Learning Systems Pharma Sub-Team for Applications of Artificial Intelligence in Healthcare Systems, a joint effort of FDA and Xavier University. Aug. 2017-Aug. 2018
- Participant, Artificial Intelligence Summit — Xavier Health, Co-organized by Xavier Health and FDA. Cincinnati, Ohio. Aug. 2017
- Center for Supply Chain Research (CSCR), Penn State University
 - Founder and organizer, pharma/healthcare research focus group, Oct. 2016. The focus group is aimed at bridging the gaps between academic research and pharma/healthcare industry challenges. It attracted top pharma/healthcare firms among CSCR corporate sponsors.
 - Presenter and discussion facilitator, Corporate Sponsor Conference, Apr. 2016.

- Co-facilitator for breakout sessions, “Successful Improvement of Visibility and Alignment”, Supply Chain Leaders Forum. Sept. 2014.
- Presenter and discussion facilitator. “*Requirement or Promise? First-Mover Advantage in Quality Contracting*”. Center for Supply Chain Research Corporate Sponsors Meeting. Nov. 2013.
- Session Facilitator, “Industry Perspectives on Big Data”, Pharmaceutical/Chemical/Process industry. Supply Chain Leaders Forum. Mar. 2013.

- Invited to speak on pharmaceutical supply chains at the FDA/Xavior Healthcare Global Outsourcing Conference for pharmaceutical industry, Cincinnati, Sept. 2012.

- Invited to speak on *Assessing the Options and Trends to Ensure You Implement What is Right for Your Business* at the IQPC (International Quality and Production Center) Pharmaceutical Distribution Conference, Philadelphia, July 2011. This is an industry conference mainly attended by pharmaceutical industry.