

# MENGYING XUE

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International Institute of Finance, School of Management  
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## EMPLOYMENT

**International Institute of Finance, School of Management, University of Science and Technology of China** 2019-2021  
Non-tenured Associate Professor

**Purdue University, Krannert School of Management** 2019-2021  
Postdoctoral Researcher, Advisor: J.George Shanthikumar, Qi Annabelle Feng

**Tsinghua University, Department of Industrial Engineering** 2019-2021  
Postdoctoral Researcher, Advisor: Zuo-Jun Max Shen

## EDUCATION

**Tsinghua University, Department of Industrial Engineering**  
Ph.D., Operations Research, Advisor: Tianhu Deng, Zuo-Jun Max Shen 2014-2019  
B.S., Industrial Engineering 2010-2014

**Massachusetts Institute of Technology, MIT Sloan Management School**  
Visiting Student, Marketing 2016-2017

## RESEARCH INTERESTS

**Topics:** Data driven decision making, Network Design, Operations Management and Marketing Interfaces, Operations Research in Energy Interfaces

**Methodologies:** Mathematical Modeling, Stochastic Programming, Data Analytics, Machine Learning, Game Theory

## WORKING PAPER

1. Jian Chen, Yong Liang, Hao Shen, Zuo-jun Max Shen, **Mengying Xue (alphabetic)**, “Offline Channel Planning in Smart Omnichannel Retail”, *Manufacturing and Service Operations Management*, minor revision, 2nd round
2. Hao Shen, **Mengying Xue\***, Zuo-jun Max Shen, “Toward Disruption-Dependent Demand: A Unified Framework for Reliable Facility Location Design”, *Management Science*, Reject and Resubmit.
3. **Mengying Xue**, Long He, Zuo-jun Max Shen, “Dynamic Pricing and Inventory Buildup with Demand Diffusion”, *Production and Operations Management*, Reject and Resubmit.

## PUBLICATIONS

1. Qi Feng, J.George Shanthikumar, **Mengying Xue\***, “Consumer Choice Models and Estimation: A Review and Extension”, Published Online in *Production and Operations Management*, <https://doi.org/10.1111/poms.13499>.
2. **Mengying Xue**, Long He, “Spatial Pricing and Product Allocation in Online Retailing”, *Naval Research Logistics*, 2020, 67(8): 670-684.
3. **Mengying Xue**, Tianhu Deng, Zuo-Jun Max Shen, “Optimizing Natural Gas Pipeline Transmission with Nonuniform Elevation: A New Initialization Approach”, *Naval Research Logistics*, 2019, 66(7): 547-564.
4. **Mengying Xue**, Tianhu Deng, Dingzhi Liu, “CNPC Uses an Iterative Two-Stage Convex Relaxation Approach to Operate Natural Gas Pipelines”, *Interfaces*, 2016, 46(6):533-546.
5. Jingkuan Han, Yingjun Xu, Dingzhi Liu, Yanfang Zhao, Zhongde Zhao, Shuhui Zhou, Tianhu Deng, **Mengying Xue\***, Junchi Ye, Zuo-Jun Max Shen, “Operations Research Enables Better Planning of Natural Gas Pipelines”, *Inform Journal of Applied Analytics*, 2019, 49(1): 23-29. (Invited Paper for Franz Edelman Finalist)
6. Xiaoyu Ma, Tianhu Deng, **Mengying Xue**, Zuo-Jun Max Shen, Boxiong Lan, “Optimal Dynamic Pricing of Mobile Data Plans in Wireless Communications”, *Omega*, 2017, 66(PA): 91-105.

## WORK IN PROGRESS

1. “Generalized Parametric Consumer Choice Model”, with Annabelle Feng, J.George Shanthikumar
2. “A Reinforcement Learning Approach to Transient-State Natural Gas Transmission Problem”, with Hao Shen, Tianhu Deng
3. “Dynamic Pricing with Feature Based Consumer Choice Model”, with Hao Shen

## HONORS AND AWARDS

Graduation with honor: Doctoral Graduate Excellence Award of Beijing	2020
INFORMS Franz Edelman Award, Finalist	2018
POMS Emerging Economies Doctoral Students Award	2018
Kuanghai Scholarship, Tsinghua University	2015, 2017
National Scholarship of China	2016
Best Paper Award, National Industrial Engineering Student Forum	2015
Scholarship for Arts, Tsinghua University	2014
Academic Scholarship, Tsinghua University	2013
Meritorious Winner of Mathematical Contest in Modeling	2013

## TEACHING EXPERIENCE

<b>Tsinghua University</b>	Teaching Assistant
<ul style="list-style-type: none"><li>• Quantitative Analysis (Graduate Core for International Student), Fall 2018</li><li>• Stochastic Programming (Short-term), Spring 2014</li></ul>	

## **Tsinghua University**

Guest Lecturer

- Operations Research II (Undergraduate core), Spring 2019
- Operations Research I (Undergraduate core), Fall 2018
- International Logistics (Graduate core), Spring 2016

## **INVITED TALK**

### *Consumer Choice Modeling via Operational Data Analytics*

- Krannert School of Management, Purdue University, 2020
- School of Entrepreneurship and Management, ShanghaiTech University, 2020

### *Toward Disruption-Dependent Demand: A Unified Framework for Reliable Facility Location Design*

- Krannert School of Management, Purdue University, 2020
- 2020 USTC-UW Conference on Fintech and Management Innovation, 2020
- School of Management, Xi'an Jiaotong University, 2020

### *An Iterative Two-stage Convex Relaxation Approach for Natural Gas Pipeline Transmission: A CNPC Case*

- INFORMS Annual Meeting, Philadelphia, PA, US, 2015
- National Industrial Engineering Ph.D. Student Forum, Beijing, China, 2015

### *Natural Gas Pipeline Transmission with Nonuniform Network Elevation*

- POMS Annual Meeting, Houston, TX, US, 2018 (Invited talk for EEDSA award)

### *Natural Gas Pipeline Transmission Optimization for China National Petroleum Corporation*

- INFORMS Conference on Business Analytics & Operations Research, Baltimore, Maryland, US, 2018 (Finalist in the Edelman Competition)

### *Dynamic Pricing and Inventory Buildup with Demand Diffusion*

- MSOM Conference, Chapel Hill, NC, US, 2017
- National Industrial Engineering Ph.D. Student Forum, Beijing, China, 2017
- 14th Workshop on Logistics and Industrial Engineering, Dalian, Liaoning, China, 2018
- Informs Annual Meeting, Seattle, WA, US, 2019

## **REVIEW SERVICE**

*Production and Operations Management, Journal of Management Science and Engineering, Asia-Pacific Journal of Operational Research, IEEE PES Transactions on Smart Grid, Energy Policy, PLOS ONE*

## **PROFESSIONAL SOCIETIES**

Institute for Operations Research and the Management Sciences  
Production and Operations Management Society

## CORPORATE EXPERIENCE

Algorithm Engineer Intern, Kuaishou Technology, Beijing, China	Spet-Dec 2017
Consulting Intern, Shuanghuan Company, Huai'an, Jiangsu, China	Jun-Aug 2016
Consulting Intern, Aviation Industry Corporation of China	Jul-Aug 2015

## SKILLS

Programming: Python, C++, Mathematica, R, SQL, MATLAB  
Language: Chinese (Native), English (Professional)

## GRADUATE COURSE WORK

### Operations Research, Industrial Engineering

<i>Advanced Operations Research</i>	Hongxuan Huang (Tsinghua)
<i>Advanced Statistics</i>	Pingke Li (Tsinghua)
<i>Distribution System Modeling</i>	Zuojun Max Shen (Tsinghua)
<i>Theory of Modern Inventory Management</i>	Xiaobo Zhao (Tsinghua)
<i>Convex Optimization</i>	Shuning Wang, Li Li (Tsinghua)
<i>Advanced Quality Management</i>	Kaibo Wang (Tsinghua)
<i>Industrial Engineering Ethics</i>	Wei Zhang (Tsinghua)

### Economics

<i>Game theory and behavioral decision making</i>	Wanshan Zhu, Yang Zhang (Tsinghua)
<i>Advanced Econometrics I,II</i>	Zhaoguo Zhan, Shengjie Hong (Tsinghua)
<i>Analytical Modeling</i>	T.Tony Ke (MIT)
<i>Industrial Organization I</i>	Glenn Ellison (MIT, Audit)
<i>Applied Econometrics</i>	Josh Angrist, Victor Chernozhukov (MIT, Audit)
<i>Microeconomic Theory I,II</i>	Alexander Wolitzky, Glenn Ellison (MIT, Audit)
<i>Microeconomic Theory III,IV</i>	Drew Fudenberg, Bengt Holmstrom (MIT, Audit)

### Statistics, Machine Learning, Deep Learning

<i>Statistical method in data mining</i>	Yu Sheng (Tsinghua)
<i>Data Analytics</i>	Pingke Li (Tsinghua)
<i>Neural Networks and Deep Learning</i>	Andrew Ng (Coursera)

## References

Zuo-Jun Max Shen  
Chancellors Professor  
Professor and Department Chair in Department of Industrial Engineering and Operations Research (4143 Etcheverry Hall)  
Professor in Department of Civil and Environmental Engineering (416 McLaughlin Hall)  
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