Bo WEI

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AREAS OF INTEREST

- Stochastic Analysis, Optimal Control, Robust Control
- Constrained Convex Optimization, Online Optimization
- Inventory Control, Supply Chain Management, Service Systems

WORKING EXPERIENCE

- Jan 2024- Present, Faculty of Business, Assistant Professor at Ozyegin University
- Sep 2021- Sep 2023, Faculty of Business Administration, Visiting Assistant Professor at Bilkent University
- Nov 2020-May 2021, Engineering Systems and Design, Research Fellow at Singapore University of Technology and Design
- Feb 2015-Aug 2020, Global Asia Institute, Industrial Systems Engineering and Management, Institute of Operations Research and Analytics, Research Fellow at National University of Singapore

EDUCATION

- Ph.D in Industrial and Systems Engineering (Dec 2014)
  Texas A & M University, College Station
  Advisors: Sıla Çetinkaya and Daren B.H. Cline
  Dissertation: Stochastic Clearing Models with Applications in Shipment Consolidation
- Master in Control Theory and Engineering (2008)
  Dept. of Automation, **University of Science and Technology of China**
  Advisor: Haibo Ji
  Thesis: Robust Control in Stochastic Nonlinear Systems based on Dissipativity
- Bachelor's Degree in Automation (2005)
  Dept. of Automation, **University of Science and Technology of China**

REFERRED PAPERS

Published:

1. Wei, B., Çetinkaya, S., Cline, D.B.H., Inbound Replenishment and Outbound Dispatch Decisions under Hybrid Shipment Consolidation Policies: An Analytical Model and Comparison. *Transportation Research Part E*, 175, 103-135,2023.
2. Wei, B., Çetinkaya, S., Cline, D.B.H., Analytical Results on the Service Performance of Stochastic Clearing Systems, *Probability in the Engineering and Informational Sciences*, 36, 217-236, 2022.
3. Wei, B., Yao D., Ergodic Inventory Control with Diffusion Demand and General Ordering Costs, *Operations Research Letters*, 49, 578-585, 2021.
4. Wei, B., Haskell, B.W., Zhao, S., The CoMirror Algorithm with Random Constraint Sampling for Convex Semi-Infinite Programming, *Annals of Operations Research*, 295: 809-841, 2020.
5. Wei B., Haskell, B.W., Zhao, S., An Inexact Primal-Dual Algorithm for Semi-Infinite Programming, *Mathematical Methods of Operations Research*, 91(3):501-544, 2020.
6. Çetinkaya, S., Mutlu, F., Wei, B., On the Service Performance of Alternative Shipment Consolidation Policies, *Operations Research Letters*, 42(1), 41-47, 2014.

Under Review:

1. Wei, B., Çetinkaya, S., Cline, D.B.H., Cost- and Service-based Comparison of Practical Policies for Stochastic Clearing under Nonlinear Delay Penalty, (Under the second revision on IISE).

Manuscripts to be Submitted:

1. Wei, B., Haskell, B.W., Zhao, S., A Randomized Nonlinear Rescaling Method in Large-Scale Constrained Convex Optimization,
2. Wei, B., Çetinkaya, S., Cline, D.B.H., Stochastic Clearing Systems with Multiple Brownian Input Processes,
3. Wei, B., Çetinkaya, S., Cline, D.B.H., Stochastic Clearing Systems with Multiple Poisson Input Processes,

Under Progress:

- An Uncertainty Principle in Stochastic Clearing Systems.
- Dynamic Pricing in Shipment Consolidation Model with a Brownian Motion Demand Process.
- Joint Dynamic Pricing and Clearing Policy in Shipment Consolidation.
- Pricing in the Integration of Inventory Replenishment and Shipment Consolidation for VMI System.
- A Linearly Decreasing Pricing Strategy in Shipment Consolidation.

TEACHING EXPERIENCE

- Courses at Ozyegin: Business Decision Modeling, Service Operations Management, Operations Management
- Courses at Bilkent: Introduction to Management Science, Production Management
- Courses Served as an Instructor at TAMU: Engineering Economy (4 semesters)
- Courses Served as a Teaching Assistant at TAMU: Probability for Engineering Decisions, Applications of Random Processes, Linear Programming
- Courses Served as a Teaching Assistant at USTC: Algebra in Control Theory, Nonlinear Control Systems

PRESENTATIONS

- A Comparison of Static vs. Linearly-Decreasing Pricing for Shipment Consolidation, POMS International (June/2024, Istanbul)
- Visibility and Invisibility in Ticket Queue Systems, School of economics and management, Beihang University (Jan/2024, Beijing)
- Visibility and Invisibility in Ticket Queue Systems, School of statistics, University of international Business and economics (Jan/2024, Beijing)
- Stochastic clearing under multiple Brownian motion input processes, Department of Industrial Engineering, Koc University (May/2023, Istanbul)
- Stochastic clearing under multiple Brownian motion input processes, School of statistics and data science, Nankai University (Oct/2022, invited online talk).
- Elective Surgery Outsourcing: A Queueing Control Perspective, Bilkent University (Dec/2021, Ankara)
- Analytical results on the service performance of stochastic clearing systems, INFORMS Annual Meeting (Oct/2021, online).
- Linearly decreasing pricing in shipment consolidation, INFORMS Annual Meeting (Nov/2014, San Francisco, CA).

- On some new properties of truncated random variables with applications in shipment consolidation, INFORMS Annual Meeting (Oct/2013, Minneapolis, MN).
- A comparison of integrated inventory/outbound dispatch policies, INFORMS Annual Meeting (Oct/2012, Phoenix, AZ).
- Optimal policies for multi-item temporal shipment consolidation, IIE Annual Conference (May/2012, Orlando, FL).
- Shipment consolidation model with drifted Brownian motion demand, Research Seminar in TAMU INFORMS Student Chapter (Feb/2012, College Station, TX).
- Shipment consolidation when demand is a drifted Brownian motion, INFORMS Annual Meeting (Nov/2011, Charlotte, NC).
- Robust performance rule design for stochastic nonlinear systems with model uncertainty, The 26th Chinese Control Conference (July/2007, Zhangjiajie, China).

GRADUATE COURSEWORK

Master stage at USTC:

- Math: Real Analysis, Linear Functional Analysis, Matrix Analysis
- Probability: Stochastic Processes, Stochastic Analysis
- Control: Linear Systems, Nonlinear Control Systems, Optimal Control, Robust Control, Stochastic Estimation and Control

Ph.D stage at TAMU:

- Math: Real Analysis I, Real Analysis II, Partial Differential Equations
- Probability theory and Statistics: Probability Measure Theory, Stochastic Processes, Advanced Stochastic Processes (Martingale and Diffusion Theory), Queueing Theory, Stochastic Differential Equations, Statistical Inference
- Optimization: Linear Programming, Nonlinear Programming
- Economics: Microeconomics I, Microeconomics II (General Equilibrium, Game Theory, Principal-Agent)
- Supply Chain Management: Facility Location and Logistics, Production and Inventory Control, Quantitative Models for Supply Chain Coordination

ADDITIONAL INTEREST

- Financial Derivative Pricing, Portfolio Theory, Mean Field Game, Mechanism Design, Optimal Transport, Lower Bounds on the Oracle Complexity of Optimization, Output Regulation, Adaptive Control, Information Theory
- Philosophy, Religion, Diamond Sutra

HONORS AND AWARDS

- Hewlett-Packard Scholarship (2008)
- Samsung Scholarship (2007)
- First Prize, the Third National Graduate Mathematical Modeling Contest (2006)

References

- Sıla Çetinkaya
  Southern Methodist University
  Engineering Management, Information, and Systems
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- Daren B. H. Cline
  Texas A & M University
  Dept. of Statistics
  dcline@stat.tamu.edu
- William B. Haskell
  Purdue University
  Supply Chain and Operations Management Area
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- Andrew E.B. Lim
  National University of Singapore
  Dept. of Analytics and Operations
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