

Sarah Yini Gao

CONTACT INFORMATION

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POSITION

Singapore Management University, Singapore, Singapore
Lee Kong Chian School of Business,
Assistant Professor of Operations Management, July 2017 - Present

RESEARCH INTERESTS

Healthcare and humanitarian Operations; Supply chain risk management; Homeland security games; Process flexibility; Social responsibility; Distributionally robust optimization; Co-positive/completely positive program; Game theory

EDUCATION

National University of Singapore, Singapore, Singapore
Ph.D., Department of Analytics and Operations, January 2013 - June 2017
Thesis Title: Completely Positive and Co-positive Programming: Applications in Disruption Risk Management, Post-disaster Humanitarian Logistics and Homeland Security Games
Thesis Advisor: Professor TEO Chung-Piaw
Committee Members: Professor Mabel CHOU, Professor TOH Kim Chuan
B.A, Business Administration, August 2008 - May 2012
B.A, Chemical Engineering, August 2008 - May 2012

PUBLICATIONS

1. Gao, S.Y., He, Y., Zhang, R., Zheng, Z., Lam, S. W., and Tan, E., 2024. Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. *Management Science*.
2. Lu, L., Fang, X., Gao, S.Y., and Kazaz, B., 2024. Collaborating with the Enemy? Sourcing Decisions in the Presence of Potential Counterfeiters. *Production and Operations Management*.
3. Zhu, T., Yeo, N., Gao, S.Y., and Loke, G.G., 2023. Inventory-Responsive Donor Management Policy: A Tandem Queueing Network Model. *Manufacturing & Service Operations Management*, 25(4), 1585-1602.
4. Chen, G., Gao, S.Y., Zheng, Z., Yuan, Y., and Chen, X., 2022. On the Test Accuracy and Effective Control of the COVID-19 Pandemic: A Case Study in Singapore. *INFORMS Journal on Applied Analytics*, 52(6), 524-538.
5. Gao, S.Y., Simchi-levi, D., Teo, C.P., and Yan, Z., 2019. Disruption Risk Mitigation in Supply Chains - The Risk Exposure Index Revisited. *Operations Research*, 67(3), 831-852.
6. Yan, Z., Gao, S.Y., and Teo, C.P., 2018. On the Design of Sparse but Efficient Structures in Operations. *Management Science*, 64(7), 3421-3445.
7. Gao, S.Y., Lim, W.S. and Tang, C., 2016. Entry of Copycats of Luxury Brands. *Marketing Science*, 36(2), 272-289.
8. Ye, Z., Gao, S.Y., and Lim, W.S., 2022. Optimal Channel Strategy of Luxury Brands in the Presence of Online Marketplace and Counterfeits. *European Journal of Operational Research*, 308(2), 709-721.

9. Gao, S.Y., Lim, W.S. and Tang, C., 2016. The Impact of the Potential Entry of Copycats: Entry Conditions, Consumer Welfare, and Social Welfare. *Decision Sciences*.
10. Gao, S.Y., Sun, J., and Wu, S.Y., 2016 A Semi-infinite Programming Approach to Two-stage Stochastic Linear Programs with High-order Moment Constraints, *Optimization Letters*, 1-11.
11. Gao, S.Y., Kong, L. and Sun, J., 2014. Robust Two-stage Stochastic Linear Programs with Moment Constraints. *Optimization*, 63(6), 829-837.

WORKING PAPERS

1. Gao, S.Y., Teo, C.P., and Zheng, H., Homeland Security Games: The Value of Flexible Redeployment, *Major Revision in Operations Research*.
2. Wang, X., Zhu, Y., Gao, S.Y., Zheng, Z., and Lam, S. W., Screening Process Information Matters More Than Clinical Information: A Randomized Controlled Trial of Information Sharing on Cancer Screening Decision. *Major Revision in Manufacturing & Service Operations Management*.
3. Gao, S.Y., Lyu, G, and Bi, S., Emergency Supply Chain Configuration with Correlated Uncertainties. *Under Review* .
4. Bandi, C., Gao, S.Y., Moorthy, R., and Teo, C.P., COVID-19 Vaccine Appointment Scheduling: The Second Dose Challenge. *Under Review* .
5. On the Adherence of Colorectal Cancer Screening Policies: A Survey Study in Singapore. under preparation. (With Zhichao Zheng, Yan He, and Nicholas Yeo)
6. Rethinking Appointment Scheduling: Addressing Counselor Burnout and Improving Patient Outcomes. under preparation. (With Kejia Hu, Yuchen Liang, and Chung-Piaw Teo)
7. Data-Driven Robust Incomplete Information Games and Bounded Rationality. under preparation. (With Chung-Piaw Teo)
8. Manufacturing Flexibility Investment in the Presence of Subscription Programs. under preparation. (With Onur Boyabatli and Liling Lu)

RESEARCH GRANTS

1. Mental Health and Mental Resilience - On the Operational Challenges of Mental Health Counselling Services, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): GAO, Yini, 2023, S\$88,000
2. Blood Donor Management: An Exploration on an Inventory-Responsive Policy, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): GAO, Yini, 2020, S\$33,229
3. On the Design of Customized Colorectal Cancer Screening Policies to Improve Screening Guideline Compliance, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): GAO, Yini , Co-PI (Project Level): ZHENG Zhichao Daniel, 2018, S\$74,945

NEWS ARTICLES

1. Lim, W.S., Tang, C. and Gao, S.Y., 2017. Mainland-made copycats triumph *South China Morning Post*
2. Gao, S.Y., Lim, W.S. and Tang, C., 2016. Fakes can be better than the real thing? Don't buy it! *The Business Times*.

INVITED TALKS

1. Wang, X., Zhu, Y., Gao, S.Y., Zheng, Z., and Lam, S. W., Screening Process Information Matters More Than Clinical Information: A Randomized Controlled Trial of Information Sharing on Cancer Screening Decision. INFORMS 2024, Seattle, United State, Oct 2024.
2. Liang, Y., Gao, S.Y., Hu, K., and Teo, C.P., Rethinking Appointment Scheduling: Addressing Counselor Burnout and Improving Patient Outcomes. MSOM 2024, Minneapolis, United States, June 2024.
3. Gao, S.Y., Teo, C.P., and Zheng, H., Resource Allocation Games with Flexible Redeployment. POMS Turkey 2024, Istanbul, Turkey, June, 2024.
4. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. Sichuan University, Chengdu, China, June, 2024.
5. Gao, S.Y., Teo, C.P., and Zheng, H., Resource Allocation Games with Flexible Redeployment. POMS HK 2024, Hong Kong, China, Jan, 2024.
6. Gao, S.Y., Teo, C.P., and Zheng, H., Resource Allocation Games with Flexible Redeployment. Southwestern University of Finance and Economics, Chengdu, China, Dec, 2023.
7. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. Zhejiang University, Zhejiang, China, Dec, 2023.
8. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. INFORMS Healthcare Conference , Toronto, Canada, July, 2023.
9. Gao, S.Y., Lyu, G, and Bi, S., Emergency Supply Chain Configuration with Correlated Uncertainties. POMS International Conference, Paris, France, July, 2023.
10. Bandi, C., Gao, S.Y., Moorthy, R., and Teo, C.P., COVID-19 Vaccine Appointment Scheduling: The Second Dose Challenge. POMS Conference, Orlando, United States, May, 2023.
11. Zhu, T., Yeo, N., Gao, S. Y., and Loke, G.G., Inventory-Responsive Donor Management Policy: A Tandem Queueing Network Model. POMS Conference, Orlando, United States, May, 2023.
12. Gao, S.Y., Lyu, G, and Bi, S., Emergency Supply Chain Configuration with Correlated Uncertainties. POMS Conference, Orlando, United States, May, 2023.
13. Zhu, T., Yeo, N., Gao, S. Y., and Loke, G.G., Inventory-Responsive Donor Management Policy: A Tandem Queueing Network Model. POMS HK 2023, Hong Kong, China, Jan, 2023.
14. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. Chinese University of Hong Kong , Hong Kong, China, Jan, 2023.
15. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. Shanghai Jiaotong University , Shanghai, China, Oct, 2022.
16. Bandi, C., Gao, S.Y., Moorthy, R., and Teo, C.P., COVID-19 Vaccine Appointment Scheduling: The Second Dose Challenge. The Technical University of Munich, Munich, Germany, July, 2022.
17. Zhu, T., Yeo, N., Gao, S. Y., and Loke, G.G., Inventory-Responsive Donor Management Policy: A Tandem Queueing Network Model. MSOM 2022, Munich, Germany, June, 2022.

18. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. Nanyang Technological University, Mar, 2022.
19. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. City University of Hong Kong, Hong Kong, China, Nov, 2020.
20. Gao, S.Y., Zheng, Z., He, Y., and Zhang, R., Optimizing Initial Screening for Colorectal Cancer Detection with Adherence Behavior. National University of Singapore, Singapore, Oct, 2020.
21. Gao, S.Y., Zheng, Z., He, Y., and Yeo, N., On the Adherence to Colorectal Cancer Screening Policies? A Survey Study in Singapore. POMS HK, Hong Kong, China, Jan, 2020.
22. Gao, S.Y., Lim, W.S. and Ye, Z., Luxury Brands and Online Marketplace: Friend or Foe? INFORMS Annual Meeting 2019, Seattle, United States, October, 2019.
23. Gao, S.Y., Teo, C.P., and Zheng, H., Disaster Relief Resource Pre-position and Redeployment Facing an Adversarial Nature. ICCOPT, Berlin, Germany, August, 2019.
24. Gao, S.Y., Zheng, Z., He, Y., and Yeo, N., On the Adherence to Colorectal Cancer Screening Policies? A Survey Study in Singapore. Health Promotion Board, Singapore, June, 2019.
25. Gao, S.Y., Lyu, G., and Bi, S., Post-Disaster Humanitarian Logistics Planning: A Time-to-Survive Framework. ICOR, Changsha, China, May, 2019.
26. Gao, S.Y., Lyu, G., and Bi, S., Post-Disaster Humanitarian Logistics Planning: A Time-to-Survive Framework. POMS, May, 2019.
27. Gao, S.Y., Teo, C.P., and Zheng, H., Disaster Relief Resource Pre-position and Redeployment Facing an Adversarial Nature. Hong Kong University of Science and Technology, Hong Kong, China, March, 2019.
28. Gao, S.Y., Teo, C.P., and Zheng, H., Disaster Relief Resource Pre-position and Redeployment Facing an Adversarial Nature. POMS HK, Hong Kong, China, January, 2019.
29. Gao, S.Y., Teo, C.P., Data-Driven Robust Incomplete Information Games and Bounded Rationality. ISMP, Bordeaux, France, July, 2018.
30. Gao, S.Y., Lyu, G., and Bi, S., Post-Disaster Humanitarian Logistics Planning: A Time-to-Survive Framework. INFORMS International, Taiwan, June, 2018.
31. Gao, S.Y., Simchi-levi, D., Teo, C.P., Yan, Z. Disruption Risk Mitigation in Supply Chains - The Risk Exposure Index Revisited. POMS, May, 2018.
32. Gao, S.Y., Simchi-levi, D., Teo, C.P., Yan, Z. Disruption Risk Mitigation in Supply Chains - The Risk Exposure Index Revisited. Workshop on Optimization and Operations Management, Shanghai, China, November 2017.
33. Gao, S.Y., Simchi-levi, D., Teo, C.P., Yan, Z. Disruption Risk Mitigation in Supply Chains - The Risk Exposure Index Revisited. INFORMS Annual Meeting 2016, Nashville, United States, November 2016.
34. Gao, S.Y., Teo, C.P., and Zheng, H., Colonel Blotto with Redeployment: A Conic Approach. 5th World Congress of the Game Theory Society, Maastricht, The Netherlands, July 2016.
35. Yan, Z., Gao, S.Y., and Teo, C.P., On the Design of Sparse but Efficient Structures in Operations. INFORMS Annual Meeting 2015, Philadelphia, Pennsylvania, United States, November 2015.

36. Gao, S.Y., Lim, W.S. and Tang, C., 2016. The Impact of the Potential Entry of Copycats: Entry Conditions, Consumer Welfare, and Social Welfare. POMS International Conference 2014, Singapore, Singapore, July, 2014.

HONORS AND
AWARDS

Lee Kong Chian Fellowship, Singapore Management University, 2020-2022.
 Dean's List of Teaching Award, Singapore Management University, 2021-2022.
 Dean's List of Teaching Award, Singapore Management University, 2020-2021.
 President's Graduate Fellowship, National University of Singapore, 2013-2017.
 NUS Research Scholarship, National University of Singapore, 2013- 2017
 NUS Exchange Student Awards, National University of Singapore, 2011
 Student Exchange Program Scholarship, ETH, Zurich, 2011
 Dean's List, Department of Chemical and Biomolecular Department, National University of Singapore
 Dean's List, Business School, National University of Singapore
 Book prize for extraordinary academic performance, NUS Bridging Course Program, National University of Singapore, 2008
 Ministry of Education Scholarship for PRC Senior Middle Two Students, 2006 - 2012
 Best Innovative Project Award in China Youth Science and Technology Competition, China, 2005

TEACHING
EXPERIENCE

1. Lee Kong Chian School of Business, Singapore Management University
 - (a) (MSc in Management) Business Analytics
 - Instructor, Term 2, 2024 (Jul 2023 and Jan 2024 Cohorts)
 - (b) (PhD) Linear Optimization
 - Instructor, Term 1, AY 2024/25
 - Instructor, Term 1, AY 2022/23
 - Instructor, Term 1, AY 2020/21
 - (c) (PhD) Topics in Interdisciplinary Research in OM
 - Instructor, Term 2, AY 2021/22
 - Instructor, Term 2, AY 2017/18
 - (d) (Undergraduate) Service and Operations Analytics
 - Instructor, Term 1, AY 2024/25
 - Instructor, Term 2, AY 2023/24
 - Instructor, Term 1, AY 2022/23
 - Instructor, Term 1, AY 2021/22
 - Instructor, Term 1, AY 2020/21
 - (e) (Undergraduate) Supply Chain Management
 - Instructor, Term 1, AY 2021/22
 - Instructor, Term 1, AY 2020/21
 - Instructor, Term 1, AY 2019/20
 - Instructor, Term 1, AY 2018/19
 - Instructor, Term 1, AY 2017/18
2. NUS School of Business, National University of Singapore

- (a) (EMBA) SF Express - NUS International Business Leader Program
 - Teaching Assistant, Summer, 2014
- (b) (Undergraduate) Business Analytic I
 - Instructor, Term 2, AY 2016/17
- (c) (Undergraduate) Business Analytic II
 - Tutor, Term 1, AY 2015/16
- (d) (Undergraduate) Physical Distribution Management
 - Teaching Assistant, Term 1, AY 2014/15
- (e) (Undergraduate) Supply Chain Management
 - Tutor, Term 2, AY 2013/14

PROFESSIONAL
SERVICES

Ad Hoc Reviewer (Alphabetical Order)

1. Annals of Operations Research
2. Computers & Operations Research
3. Decision Sciences
4. European Journal of Operational Research
5. Health Care Management Science
6. IISE Transactions
7. Journal of Retailing
8. Management Science
9. Manufacturing & Service Operations Management
10. Omega
11. Operations Research
12. Production and Operations Management
13. Transportation Research Part B