

Qinghe SUN

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Research Interests

Maritime-OM Interface: Maritime Sustainability; Data-driven Maritime Operations
Methodologies: Optimization under Uncertainty; Game Theory; Machine Learning

Education

National University of Singapore (NUS) *Aug 2017 - May 2022*

Ph.D. Candidate in Operations Research and Analytics

Thesis: “Sustainable Operations: Energy, Waste and Emissions in Shipping”

Thesis Advisors: Prof. Mabel Chou and Prof. Qiang Meng

Nanyang Technological University (NTU) *Aug 2013 - July 2017*

B.Sc. in Maritime Studies (First Class Honours), Minor in Mathematics

Thesis: “Effect of Fuel Price on Carbon Emissions and Policy Implications in Shipping”

Thesis Advisor: Prof. Jasmine Lam Siu Lee

BI Norwegian Business School, Norway *Aug 2015 - Dec 2015*

Maritime Law

Publication & Working Papers

1. Sun, Q., Meng, Q., & Chou, M. C. (2021). Optimizing voyage charterparty (VCP) arrangement: Laytime negotiation and operations coordination. *European Journal of Operational Research*, 291(1), 263-270.
2. “Mitigating the financial risks behind emission cap compliance: a case in maritime transportation” (with Li Chen, Qiang Meng and Mabel Chou)
- Major revision at *Production and Operations Management*
3. “Data-driven bunker refueling under price uncertainty” (with Mabel Chou)
- Best Presentation Award, 2021 Analytics for X Conference, Singapore [video]
- Preprint available
4. “On the toxic trade-offs in ship-recycling” (with Mabel Chou)
- Under review at *Manufacturing & Service Operations Management*
5. “Port efficiency evaluation under uncertainty: theory and application” (with Qiang Meng and Li Chen)
- Under review at *Transportation Research Part B: Methodological*
6. “Intermodal freight transportation network analysis: The China-Singapore International Land-Sea Trade Corridor” (with Siying Zhu, Shuai Jia and Qiang Meng)
- Under review at *Journal of Transport Geography*
7. [Student Supervision] “Vessel Weather Routing Under Sulfur Emission Regulations and Policy Implications: A Dynamic Programming Approach” (with Sangjeong Lee and Qiang Meng)

Work-in-progress

1. Distribution-free capacity bounds in long chain (with Li Chen and Mabel Chou)
- Work-in-progress
2. “Merchant liquefied natural gas (LNG) trading for a capacitated storage asset” (with Mabel Chou and Qiang Meng)
- Work-in-progress, presented at *Informs 2019*

Teaching Experience	<p>NUS Business School <i>Instructor</i> DOS3701/DSC3201 Supply Chain Management (BBA), Co-lecturer, Fall 2021 DAO1704X/DSC1007X Business Analytics (BBA), Tutor, Fall 2018 and Spring 2019 <i>Teaching Assistant</i> DAO2703 Operations and Technology Management (BBA), Fall 2019 LI5202 Supply Chain Management Strategies (Master), Spring 2020</p>
Teaching Interests	<p>Maritime: Shipping Logistics, Chartering, Maritime Economics, Maritime Strategy Operations: Operations Management, Business Analytics, Inventory Management, Supply Chain Management, Optimization</p>
Selected Projects	<p>[Shipping company] Bunker price forecasting and refueling optimization (<i>with patent</i>) Role: project manager <i>May 2021-present</i> Collaborator: <i>Ocean Network Express (ONE)</i> Under review at “MOE decentralized Gap Funding -RIE2025”, which supports research commercialisation</p> <p>[Maritime authority] Analysis of inter-modal transportation network in the context of the New International Land-Sea Trade Corridor under the China-Singapore (Chongqing) Demonstrative Initiative on Strategic Connectivity (CCI-ILSTC) <i>Oct 2020-Sep 2021</i> Sponsors: <i>Maritime and Port Authority of Singapore (MPA); China Waterborne Transport Research Institute</i></p> <p>[Port] Workforce planning for multi-purpose port <i>Jan 2019-Jan 2020</i> Sponsors: <i>Jurong Port Pte Ltd; Singapore Data Science Consortium (SDSC)</i></p>
Professional Experience	<p>Norddeutsche Landesbank (Nord/LB) <i>May 2016 - Aug 2016</i> <i>Ship Finance Intern</i></p> <p>The Association of Chartered Certified Accountants <i>Aug 2014-May 2017</i> <i>(Qualification exam status: 13/14)</i></p>
Honors & Awards	<p>NUS Graduate Research Scholarship <i>May 2017-Aug 2021</i> NTU President Research Scholar <i>Aug 2015-May 2017</i> Dean’s List and Academic Excellence Award, NTU <i>2014-2016</i> Senior Middle Two (SM2) Scholarship, Singapore Ministry of Education <i>2011-2017</i></p>
Services & Activities	<p>Student Mentoring - Sangjeong Lee (NUS PhD student) - NUS BBA Field Service Project (three BBA students): Review on global LNG market</p> <p>Reviewer for Journals Production and Operations Management Transportation Research Part B: Methodological Transportation Research Part E: Logistics and Transportation Review</p> <p>Extracurricular Activities Student volunteer, MSOM 2019 Annual Conference, Singapore Chairperson, NTU Harmonica Band “VIVACE XIV” Concert [about] <i>2013-2015</i> Student conductor, NTU Cultural Activities Club, Harmonica Band <i>2014-2015</i> Co-organizer, Asian Culture Outreach Program, Oslo <i>2015-2016</i> Volunteer (GCE O-Level Chinese tutor), Nan Hua High School, Singapore <i>2012-2013</i></p>