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Education Qualifications

- Post-Graduate Diploma of Teaching in Higher Education, National Institute of Education, 1995
- PhD in Operations Research, Massachusetts Institute of Technology, 1990
- B.Sc. (1st Class Hons) in Mathematics, National University of Singapore, 1984

Academic and Professional Experience

- Deputy Director, Centre for Maritime Studies, July 2022 - Present
- Deputy Head, Department of Analytics & Operations, NUS Business School, July 2017 – Dec 2022
- Associate Professor, Department of Analytics & Operations, NUS Business School, Dec 2009 – Present
- Director (Degree Education), The Logistics Institute – Asia Pacific, Dec 2009 – Sep 2019
- Container Terminal Process Manager, PSA Corporation Limited, Jan 2006 – Dec 2009
- Manager (Operations Research), PSA International Pte Ltd, Jan 2005 – Dec 2005
- Manager (Operations Research), PSA Corporation Limited, Oct 2000 – Dec 2004
- Adjunct A/Professor, Department of Industrial Systems Engineering & Management, Jan 2002 – Dec 2009
- Operations Research Manager, Land Transport Authority, Jan 2001 – Dec 2002
- Assistant Professor, Department of Mathematics, National University of Singapore, Jul 1998 – Sep 2000
- Senior Lecturer, Department of Mathematics, National University of Singapore, Jun 1990 – Jun 1998
- Senior Tutor, Department of Mathematics, National University of Singapore, Jun 1984 – May 1990

Selected Publications

Journal Articles

- **Integrated automated guided vehicle dispatching and equipment scheduling with speed optimization** (with Z. Xing, H. Liu, T. Wang, E. P. Chew, and L. H. Lee), *Transportation Research Part E: Logistics and Transportation Review*, 169 (2023)
- **Tugboat scheduling under ship arrival and tugging process time uncertainty** (with L. Kang, and Q. Meng), *Transportation Research Part E: Logistics and Transportation Review*, 144 (2020)
- **Tugboat scheduling for container ports** (with X. Wei, S. Jia, and Q. Meng), *Transportation Research Part E: Logistics and Transportation Review*, 142 (2020)
- **Tree based searching approaches for integrated vehicle dispatching and container allocation in a transshipment hub** (with Y. Wang, X. Jiang, L. H. Lee, and E. P. Chew), *Expert Systems with Applications*, 74, pp. 139-150 (2017)
- **Multi-class Dynamic Inventory Rationing with Stochastic Demands and Backordering**, (with S. Liu, M. Song, and C. Zhang), *European Journal of Operational Research*, 224(1), pp. 153-163 (2015)
- **Flexible Space-sharing Strategy for Storage Yard Management in a Transshipment Hub Port**, (with X. Jiang, E. P. Chew and L. H. Lee), *OR Spectrum*, 35(2), pp. 417-439 (2013)
- **Design and Evaluation of Mega Container Terminal Configurations: An Integrated Simulation Approach**, (with Z. Sun, L. H. Lee and E. P. Chew), *Simulation*, 89(6), pp. 684-692 (2013)
- **A Container yard storage strategy for Improving Land Utilization and Operation Efficiency in a Transshipment Hub Port**, (with X. Jiang, L. H. Lee, E. P. Chew and Y. Han), *European Journal of Operational Research*, 221(1), pp. 64-73 (2012)
- **A Novel Approach to Yard Planning Under Vessel Arrival Uncertainty**, (with L. P. Ku, E. P. Chew and L. H. Lee), *Flexible Services and Manufacturing Journal*, 24(3), pp. 274-293 (2012)
- **Vehicle Dispatching Algorithm for Transshipment Hubs**, (with L. H. Lee, E. P. Chew and Y. Wang), *OR Spectrum*, 32(3), pp. 663-685 (2010)

- **An Optimisation Framework for Yard Planning in a Container Terminal - Case with Automated Rail-Mounted Gantry Cranes**, (with L. P. Ku, L. H. Lee and E. P. Chew), OR Spectrum, 32(3), pp. 519-541 (2010)
- **A Yard Storage Strategy for Minimizing Traffic Congestion in a Marine Container Transshipment Hub**, (with Y. Han, L. H. Lee and E. P. Chew), OR Spectrum, 30(4), pp. 697-720 (2008)
- **A Simulation Approach in Estimating the Impact of Channel on Port Capacity**, (with A. Li, L. H. Lee and E. P. Chew), World Review of Intermodal Transportation Research, 1(4), pp. 343-356 (2007)
- **An Optimization Model for Storage Yard Management in Transshipment Hubs**, (with L. H. Lee, E. P. Chew and Y. Han), OR Spectrum, 28(4), pp. 539-561 (2006)
- **Dispatching Automated Guided Vehicles in a Container Terminal**, (with Y. L. Cheng, H. C. Sen, K. Natarajan and C. P. Teo), Supply Chain Optimization (edited by J. Geunes and P. M. Pardalos), Springer, pp. 355-390 (2006)
- **Multi-item inventory staggering problem: Heuristics and bounds**, (with C. P. Teo and J. H. Ou), Proceedings of the 9th ACM-SIAM Symposium on Discrete Algorithms, pp. 584-593 (1998)
- **A Method for the Parametric Center Problem, with a Strictly Monotone Polynomial-Time Algorithm for Linear Programming**, (with R. M. Freund), Mathematics of Operations Research, 16(4), pp. 775-801 (1991)

Book Chapter

- **Development of the Port of Singapore: A Historical Review**, (with G. Pedrielli, L. H. Lee, and E. P. Chew), in 50 Years of Transportation in Singapore: Achievements and Challenges, pp. 403-478 (2016)
- **An optimization model for storage yard management in transshipment hub**, (with L. H. Lee, E. P. Chew and Y. Han), in Container Terminals and Cargo Systems: Design, Operations Management, and Logistics Control Issues, pp. 107-129 (2007)

Membership And Professional Activities

- Member, Manufacturing Standards Committee (under Singapore Standards Council) (April 2014 – 2017)
- Member, Logistics Technical Committee (Trade & Connectivity Standards Committee) (2014 – 2026)
- Honorary Advisor, Container Depot and Logistics Association (Singapore) (Sep 2018 – Jun 2026)
- President, Operational Research Society of Singapore (2002 – 2005, 2016 – present)
- Vice-President of Operational Research Society of Singapore (2006 – 2010)

Consultation and Executive Experience

- Manager (Operations Research), PSA Corporation Limited
- Container Terminal Process Manager, PSA Corporation Limited
- Operations Research Manager, Land Transport Authority

Research Interests

- Container Terminal Operations Modeling and Optimization
- Logistics and Supply Chain Optimization

Courses

- DAO1704 Decision Analytics with Spreadsheets
- DSC1007 Business Analytics I: Models and Decisions
- DSC2003 Management Science
- DSC3218 Physical Distribution Management
- IE5401 Industrial Logistics
- IE5405 Inventory Systems
- LI5101 Supply Chain Management Thinking and Practice
- LI5201 Special Topics in Logistics
- LI5202 Supply Chain Management Strategies and Cases
- LI5203 Global Logistics and Supply Chain Management
- LI5204 Supply Chain Optimization and Simulation