



姓名：张灿荣

职称：教授、博士生导师

学科：管理科学与工程、数据科学与信息技术

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#### 【个人简介】

张灿荣，教授、博士生导师。2005 年本科毕业于西安交通大学工业工程系，2010 年博士毕业于清华大学工业工程系，读博期间，到美国威斯康星大学麦迪逊分校交流学习一年，2010 年博士毕业后入职清华大学深圳国际研究生院。长期从事数字化生产、智慧物流、供应链管理等方面的研究，主要的工作是设计优化理论与数据分析技术（Optimization and Data Analytics）相结合的优化算法，处理集装箱码头运作优化、生产计划与调度、物流网络设计和优化等领域的复杂优化决策问题，提高系统运作效率。承担包括国家自然科学基金、国家重点研发项目、广东省杰出青年基金在内的十余项国家、地方、企事业单位科研项目；研究成果发表在 Transportation Science, Transportation Research Part B: Methodological, INFORMS Journal on Computing, IISE Transactions, European Journal of Operational Research, Naval Research Logistics 等国际知名期刊上；部分

科研成果通过产学研合作和科技成果转化等方式，在华为技术有限公司、华为海思半导体有限公司、阿里巴巴、恒力集团、盐田港、天津港等多家企业得到应用，有效提升中国企业的数字化水平。聘为全国工程管理专业学位研究生教指委物流工程与管理专家组成员；担任工业工程学科知名 SCI 期刊 *Computers & Industrial Engineering* 领域主编；参与 *INFORMS Conference on Service Science* 等多个国际会议的组织工作。承担《高级运筹学》、《生产管理》等多门课程的教学任务，多次荣获清华大学年度教学优秀奖、清华大学教学成果一等奖，被学生评为深研院首届“良师益友”。

## 【学术经历】

### ● 教育经历：

2005.09-2010.07	清华大学工业工程系	博士
2008.09-2009.09	美国威斯康星大学麦迪逊分校	联合培养
2000.09-2005.07	西安交通大学管理学院工业工程系	双学士

### ● 工作经历：

2021.01 - 现在	清华大学深圳国际研究生院	培养处副处长、处长
2020.12 - 现在	清华大学深圳国际研究生院	教授、博导
2018.06-2023.02	清华大学深圳国际研究生院	物流与交通学部副主任
2013.12-2020.11	清华大学深圳国际研究生院	副教授、博导
2010.07-2013.11	清华大学深圳国际研究生院	讲师

## 【研究兴趣】

从事数字化生产、智慧物流、供应链管理等方面的研究：

### ● 方法层面：

大规模优化、线性和整数规划、动态规划、随机优化、数据挖掘等。

### ● 应用层面：

集装箱码头运作优化、生产计划与调度、物流网络设计和优化、低空经济，以及相应的决策支持系统研发。

## 【科研项目】

● 纵向科研项目

- [1] 国家自然科学基金面上项目,《基于数据驱动的集装箱甩挂运输问题研究》,主持,在研
- [2] 国家自然科学基金面上项目,《基于动态决策和数据挖掘的集装箱翻倒问题研究》,主持,已结题
- [3] 国家自然科学基金面上项目,《考虑不确定性的港口资源调度问题研究》,主持,已结题
- [4] 国家自然科学基金青年项目,《考虑集装箱翻倒的场地位置分配研究》,主持,已结题
- [5] 国家重点研发计划,《基于 HCPS 的智能工厂与无人生产线自组织重构体系与关键技术》,主持(子课题),已结题
- [6] 广东省自然科学基金杰出青年项目,《集装箱码头运作优化研究》,主持,已结题
- [7] 深圳市稳定支持项目(重点项目),《可重构柔性装配中心关键技术研究》,共同主持,已结题
- [8] 深圳市基础研究项目(自由探索),《半导体智能生产管理决策支持系统关键技术研究》,主持,已结题
- [9] 深圳市基础研究项目(学科布局),《物流末端配送机器人关键技术研究》,共同主持,已结题

● 横向合作项目

- [1] 华为技术有限公司,《芯片生产工艺流速比算法研发》,主持,在研
- [2] 华为技术有限公司,《芯片生产排程调度算法研发》,主持,已结题
- [3] 华为海思半导体有限公司,《仓储机器人协调控制算法研发》,主持,已结题
- [4] 华为海思半导体有限公司,《仓库操作看板优化调度系统研发》,主持,已结题
- [5] 华为海思半导体有限公司,《高级生产计划排程系统(APS)研发》,主持,已结题
- [6] 苏州恒力智能科技有限公司,《薄膜下料与生产排程优化项目》,主持,已结题
- [7] 阿里云计算有限公司,《基于缓冲区的汽车焊装-涂装-总装多车间联合调度排序问题研究》,主持,已结题
- [8] 盐田港国际资讯有限公司,《盐田区临港物流能力指数构建》,主持,已结题
- [9] 深圳市盐田区经济促进局,《盐田区港口物流业发展第十三个五年规划》,主

持，已结题

- [10] 天津五洲国际集装箱码头有限公司，《集装箱堆场场地计划决策支持系统研发》，主要完成人，已结题

## 【学术论文】

（注：\* 代表通讯作者； # 代表指导的学生）

- [63] Guo Xinyi<sup>#</sup>, Côté Jean-François, **Zhang Canrong\***, and Miao Lixin. A Logic-Based Benders Decomposition for the Car Resequencing Problem with a Painted Body Storage. *INFORMS Journal on Computing*, 2025, forthcoming.
- [62] Duan Hongda<sup>#</sup>, **Zhang Canrong**, Zhen Lu, Wang Mengtong\*, and Miao Lixin. Exact Algorithm for the Integrated Berth and Quay Crane Allocation Problem Considering Tidal Impact. *Transportmetrica A: Transport Science*, 2025, forthcoming.
- [61] Jiang Bo<sup>#</sup>, Kang Yuexin, Liu Xinglu, and **Zhang Canrong\***. Exact and Heuristic Algorithms for Robust Lot-Sizing and Scheduling Problems with Uncertain Capacity. *Computers & Operations Research*, December 2025, 184: 107218.
- [60] Li Xinyi<sup>#</sup>, **Zhang Canrong\***, and Zhu Jiarao. A Profit Maximization Problem of Equipment Rental and Scheduling with Split Services. *IIE Transactions*, October 2025, 57(10): 1133-1154.
- [59] Wang Qi<sup>#</sup>, Tong Xialiang, Li Yantong, Wang Chong, and **Zhang Canrong\***. Integrated Scheduling Optimization for Automated Container Terminal: A Reinforcement Learning-Based Approach. *IEEE Transactions on Intelligent Transportation Systems*, July 2025, 26(7): 10019-10035.
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- [57] Li Yitian<sup>#</sup>, Li Xinyi<sup>#</sup>, **Zhang Canrong\***, and Wu Tao. Decomposition algorithms for the robust unidirectional quay crane scheduling problems. *Computers & Operations Research*, July 2024, 167: 106670.
- [56] Wang Chong<sup>#</sup>, Liu Kaiyuan<sup>#</sup>, **Zhang Canrong\***, and Miao Lixin. Distributionally Robust Chance-Constrained Optimization for the Integrated Berth

- Allocation and Quay Crane Assignment Problem. *Transportation Research Part B: Methodological*, April 2024, 182: 102923.
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- [54] Wang Naiyu<sup>#</sup>, Meng Qiang, and **Zhang Canrong\***. A branch-price-and-cut algorithm for the local container drayage problem with controllable vehicle interference. *Transportation Research Part B: Methodological*, December 2023, 178: 102835.
- [53] Hao Xinye<sup>#</sup>, Liu Changchun, Liu Maoqi, **Zhang Canrong**, and Zheng Li\*. Solving a Real-world Large-scale Cutting Stock Problem: A Clustering-assignment-based Model. *IIE Transactions*, November 2023, 55(11): 1160-1173.
- [52] **Zhang Canrong\***, Wang Qi, and Yuan Guoping. Novel models and algorithms for location assignment for outbound containers in container terminals. *European Journal of Operational Research*, July 2023, 308(2): 722-737.
- [51] Xia Yang<sup>#</sup>, Zeng Wenjia, **Zhang Canrong\***, and Yang Hai. A branch-and-price-and-cut algorithm for the vehicle routing problem with load-dependent drones. *Transportation Research Part B: Methodological*, May 2023, 171: 80-110.
- [50] Wu Tao, **Zhang Canrong\***, Chen Weiwei, Liang Zhe, and Zhang Xiaoning. Unsupervised Learning-driven Heuristic for Production-distribution Problems. *Transportation Science*, November-December 2022, 56(6): 1677-1702.
- [49] Wang Mengtong<sup>#</sup>, **Zhang Canrong\***, Bell Michael, and Miao Lixin. A Branch-and-Price Algorithm for Location-Routing Problems with Pick-Up Stations in the Last-Mile Distribution System, *European Journal of Operational Research*, December 2022, 303(3): 1258-1276.
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- [40] Li Na, Li Xiaorui, **Zhang Canrong**, and Kong Nan. Integrated Optimization of Appointment Allocation and Access Prioritization in Patient-Centred Outpatient Scheduling. *Computers & Industrial Engineering*, April 2021, 154: 1-10.
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- [35] Wei Mingyuan<sup>#</sup>, Guan Hao, Liu Yunhan, Gao Benhe, and **Zhang Canrong**\*. Production, Replenishment and Inventory Policies for Perishable Products in a Two-echelon Distribution Network. *Sustainability*, June 2020, 12(11): 1-26.
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- [26] Wu Tao, Xiao Fan, **Zhang Canrong**, He Yan, and Liang Zhe. The green

- capacitated multi-item lot sizing problem with parallel machines. *Computers & Operations Research*, October 2018, 98: 149-164.
- [25] Wu Tao, Liang Zhe, and **Zhang Canrong**. Analytics Branching and Selection for the Capacitated Multi-Item Lot Sizing Problem with Non-Identical Machines. *INFORMS Journal on Computing*, Spring 2018, 30(2): 236-258.
- [24] **Zhang Canrong**, Wu Tao, Qi Mingyao, and Miao Lixin. Simultaneous Allocation of Berths and Quay Cranes under Discrete Berth Situation. *Asia-Pacific Journal of Operational Research*, June 2018, 35(3): 1-28.
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- [16] Liang Zhe, He Yan, Wu Tao, and **Zhang Canrong\***. An informative column generation and decomposition method for a product on planning and facility

- location problem. *International Journal of Production Economics*, December 2015, 170, Part A: 88-96.
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### 【讲授课程】

- 《高级运筹学》
- 《生产管理》
- 《库存管理》
- 《Analysis and Optimization on Logistics Systems》

### 【学术兼职】

- Computers & Industrial Engineering, 领域主编 (Area Editor)
- INFORMS Conference on Service Science, 项目主席 (Program Chair)
- 招商局港口集团股份有限公司 “数字科技” 专家 (2024-2026)

## 【主要荣誉】

### ● 学术荣誉

- [1] 清华 IE 亮剑全国工业工程案例应用大赛特等奖（2024 年）
- [2] 华为“合作创新奖”（2023 年）
- [3] 广东省自然科学基金杰出青年项目（2020 年）
- [4] 深圳市地方级领军人才（2017 年）
- [5] 深圳市海外孔雀计划人才（2014 年）
- [6] 中日友好 NSK 机械工学优秀论文奖（2010 年）
- [7] IEEE 自动化与物流国际会议最优论文（2007 年）

### ● 教书育人

- [1] 清华大学教学成果一等奖（排名第三）（2025 年）
- [2] 清华大学教学成果一等奖（排名第四）（2025 年）
- [3] 全国工程管理专业学位研究生教指委物流工程与管理专家组成员（2024 年）
- [4] 深圳市优秀教师（2023 年）
- [5] 《高级运筹学》清华大学课程思政示范课程（2023 年）
- [6] 清华大学课程思政示范教师（2023 年）
- [7] 《高级运筹学》院课程思政试点示范工程（2022 年）
- [8] 清华大学第十八届“良师益友”提名（2022 年）
- [9] 《高级运筹学》清华大学精品课（2019 年）
- [10] 清华大学年度教学优秀奖（2018 年）
- [11] 清华大学年度教学优秀奖（2017 年首届）
- [12] 《高级运筹学》清华大学深圳研究生院精品课（2017 年）
- [13] 清华大学深圳研究生院“良师益友”（2013 年首届）