

Curriculum Vitae

Dr. Kai PAN

Contact Information

M507a, 5/F, Li Ka Shing Tower

Mobile: +852 2766 5545

Department of Logistics and Maritime Studies

E-mail: kai.pan@polyu.edu.hk

Faculty of Business, The Hong Kong Polytechnic University

Hung Hom, Kowloon, Hong Kong

Web: <https://sites.google.com/view/kaipanuf>

Academic Qualifications

Ph.D., Operations Research, University of Florida, USA 2016

- *Dissertation Title:* Deterministic and Stochastic Unit Commitment Problems: Convex Hulls, Strong Formulations, and Case Studies

The IISE Pritsker Doctoral Dissertation Award, the first place, 2017

- *Advisor:* Prof. Yongpei Guan

M.S., Operations Research, University of Florida, USA 2014

B.S., Industrial Engineering, Zhejiang University, China 2010

Academic Positions

Assistant Professor in Operations Management

Faculty of Business, The Hong Kong Polytechnic University

2016 - Present

Research Interests

Data-Driven Optimization, Energy Market, Smart City Operations, Marketing, Supply Chain

Journal Publications

1. "Cutting Planes for Security-Constrained Unit Commitment with Regulation Reserve," with Jianqiu Huang and Yongpei Guan. *IISE Transactions*, forthcoming, 2020.
2. "Integrated Ad Delivery Planning for Targeted Display Advertising," with Huaxiao Shen, Yanzhi Li and Youhua (Frank) Chen. *Operations Research*, forthcoming, 2020.
3. "Data-driven Planning for Renewable Distributed Generation Integration," with Abolhassan Mohammadi Fathabad, Jianqiang Cheng and Feng Qiu. *IEEE Transactions on Power Systems*, forthcoming, 2020. (IF: 6.074)
4. "Multistage Stochastic Power Generation Scheduling Co-Optimizing Energy and Ancillary Services," with Jianqiu Huang and Yongpei Guan. *INFORMS Journal on Computing*, forthcoming, 2020.
5. "Data-Driven Look-Ahead Unit Commitment Considering Forbidden Zones and Dynamic Ramping Rates," with Ziliang Jin, Lei Fan and Tao Ding. *IEEE Transactions on Industrial Informatics*, 15(6): 3267-3276, 2019. (IF: 9.112)
6. "A Strengthened Mixed-Integer Linear Programming Formulation for Combined-Cycle Units," with Lei Fan and Yongpei Guan. *European Journal of Operational Research*, 275 (3): 865-881, 2019.
7. "Bulk Ship Scheduling in Industrial Shipping with Stochastic Backhaul Canvassing Demand," with Lingxiao Wu, Shuaian Wang and Dong Yang. *Transportation Research Part B*, 117: 117-136, 2018.
8. "Polynomial Time Algorithms and Extended Formulations for Unit Commitment Problems," with Yongpei Guan and Kezhao Zhou. *IISE Transactions*, 50(8): 735-751, 2018. (IISE Magazine feature article)
9. "Strong Formulations for Multistage Stochastic Self-Scheduling Unit Commitment," with Yongpei Guan. *Operations Research*, 64(6): 1482-1498, 2016.

External Research Grants

1. Hong Kong RGC General Research Fund, Principle Investigator. Project title: Data-Driven Planning for Smart Vehicle-Grid Integration Systems. Project period: 2021 - 2023.
2. National Natural Science Foundation of China, Principle Investigator. Project title: Optimizing Electrical Power System Operations Considering Limited Supply and Uncertain Net Demand. Project period: 2021 - 2023.
3. Hong Kong RGC General Research Fund, Principle Investigator. Project title: Capacity Design for Electrified Shared-Mobility Systems. Project period: 2020 - 2022.
4. Hong Kong RGC General Research Fund, Principle Investigator. Project title: Strategic Operations Management in Bicycle-sharing Industry. Period period: 2019 - 2021.

Ph.D. Student Supervision

1. Ding Zou, The Hong Kong Polytechnic University, ongoing (co-supervisor; jointly supervised with Yulan Wang and Xiaomeng Guo).
2. Abolhassan Mohammadi Fathabad, The University of Arizona, ongoing (co-supervisor; jointly supervised with Jianqiang Cheng).
3. Ziliang Jin, The Hong Kong Polytechnic University, ongoing (chief supervisor; Hong Kong PhD Fellowship Scheme awardee).

Professional Experience

Amazon Corporate LLC
Seattle, Washington, USA

Research Scientist
2015 Summer

GE Grid Solutions (formerly ALSTOM Grid)
Redmond, Washington, USA

Research Scientist
2014 Summer

Honors and Awards

- The Institute of Industrial and Systems Engineers (IISE) Pritsker Doctoral Dissertation Award, the first place winner, 2017
- Hearn Graduate Research Award, University of Florida, 2016
- Office of Research Travel Award, University of Florida, 2015
- Linda Parker Hudson Summer Fellowship, University of Florida, 2015
- Outstanding Graduate with Honor, Zhejiang University, 2010
- Outstanding Student, Zhejiang University, 2007-2010
- Outstanding Bachelor's Thesis, Zhejiang University, 2010
- Chinese National Scholarship, 2009

Professional Service

- *Reviewer for the Scholarly Journals:* Operations Research; Management Science; Manufacturing & Service Operations Management; Production and Operations Management; INFORMS Journal on Computing; IISE Transactions; European Journal of Operational Research; IEEE Transactions on Power Systems; etc.
- *Session Chair:* 2016 - 2020 INFORMS Annual Meeting; 2016 IISE Annual Conference; 2018 CSAMSE Annual Conference; 2019 POMS Annual Conference.
- *Program Committee Member:* 2019 - 2020 INFORMS Conference on Service Science.