Yuying LONG

⌂ HomePage Github ℝ͢ᴳ ResearchGate ✉ yuying.long@connect.polyu.hk

Education

The Hong Kong Polytechnic University — Hong Kong, SAR
Ph.D. in Aviation Engineering, Supervisor: Dr. Gangyan XU — *Sept. 2022-Jun. 2026 (Expected)*

Harbin Institute of Technology — Shenzhen, China
M.S. in Transportation Planning & Management, Supervisor: Prof. Binglei XIE — *Sept. 2020-Jun. 2022*

Southwest Jiaotong University — Chengdu, China
B.S. in Transportation Engineering, Supervisor: Prof. Yangsheng JIANG — *Sept. 2016- Jun. 2020*

Research Interest

- **Methodology:** Mixed integer linear programming, Dynamic decision-making, Human-AI collaboration, Large language model.

- **Application:** Human-centric emergency response, focusing on post-disaster operations and healthcare management.

Publications

[J1] **Y. Long**, X. Han, & G. Xu *. Dynamic and Collaborative Dispatching of Heterogeneous Relief Resources considering Fairness (in Chinese). *Journal of Safety Science and Technology.*

[J2] **Y. Long**, P. Sun, & G. Xu *. Dynamic Heterogeneous Resource Allocation in Post-disaster Relief Operation Considering Fairness. *Advanced Engineering Informatics.* DOI: 10.1016/j.aei.2024.102858.

[J3] **Y. Long**, G. Xu*, J. Zhao, B. Xie, & M. Fang. Dynamic Truck–UAV Collaboration and Integrated Route Planning for Resilient Urban Emergency Response. *IEEE Transactions on Engineering Management.* DOI:10.1109/TEM.2023.3299693.

[J4] G. Xu, **Y. Long**, X. Wang & B. Xie*. Truck-Drone Collaboration Strategies and Scheduling Optimization for Urban Emergency Responses (in Chinese). *Journal of Safety and Environment* (05),1587-1595. DOI:10.13637/j.issn.1009-6094.2022.0084.

[J5] J. Zhao, **Y. Long**, B. Xie *, G. Xu, & Y. Liu. A Matheuristic Solution for Efficient Scheduling in Dynamic Truck-Drone Collaboration. *Expert System with Application.*

[J6] Y. Liu, B. Xie, **Y. Long**, J. Chen, & G. Xu*. Learning-based Heterogeneous Autonomous Vehicles Scheduling for On-demand Last-mile Transportation. *IEEE Transactions on Automation Science and Engineering.* doi: 10.1109/TASE.2025.361167.

[J7] P. Wan, S. Wang, G. Xu*, **Y. Long**, & R. Hu. Hybrid Heuristic-based Multi-UAV Route Planning for Time-dependent Data Collection. *IEEE Internet of Things Journal.*

[C1] **Y. Long**, H. Zhang, X. Wang & G. Xu*. UAV-Assisted Emergency Response: An Interdisciplinary Perspective. In *2023 International Society of Transdisciplinary Engineering (TE2023).*

[C2] **Y. Long**, Y. Sun, G. Xu*, & P. Shu. Collaborative vehicle dispatching for resilient and fair emergency response. In *2021 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 649-653). IEEE. DOI: 10.1109/IEEM50564.2021.9672982.

[C3] X. Wang, **Y. Long**, G. Xu* & Y. Liu. Integrated Tractor and Trailer Scheduling for Airport Baggage Transport Service. In *2023 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, IEEE.

[C4] S. Wang, **Y. Long**, Y. Zhou, & G. Xu*. Multi-UAV Route Planning for Data Collection from Heterogeneous IoT Devices. In *2022 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 1556-1560). IEEE. DOI:10.1109/IEEM55944.2022.9989729.

Selected Awards and Honors

- November 2023: **Best Paper Second Prize**, International Symposium on Emergency Management (ISEM 2023), Wuhan, China.

- June 2022: **Excellent Master's thesis**, Harbin Institute of Technology (Shenzhen), Shenzhen, China.

- June 2022: **Outstanding Graduate**, Harbin Institute of Technology (Shenzhen), Shenzhen, China.

- December 2021: **Recommend Excellent Paper**, The 16th International Symposium on Emergency Management, Beijing, China.

- September 2021: **Outstanding Student**, Harbin Institute of Technology (Shenzhen), Shenzhen, China.

- September 2019: **National Encouragement Scholarship**, Southwest Jiaotong University, Chengdu, China.

Teaching and Research Mentoring

- **Teaching assistant: Safety, Reliability and Compliance**, Spring 2023, PolyU

  - Enrollment: 86 undergraduate students in the Faculty of Engineering.
  - Delivered one tutorial on reliability basics.
  - Prepared course materials and homework.

- **Mentored** a PolyU Aeronautics and Astronautics Engineering master student (Shukang WANG, currently a):

- **Mentored** a PolyU Aeronautics and Astronautics Engineering master student (Xiaobin QIU, currently a Ph. D. student in PolyU):

Presentations/Talks

1. "Dynamic Vehicle Location and Relocation Under Supply and Demand Uncertainties in Disaster Response",

   - INFORMS International Meeting, Singapore, 2025.

2. "Dynamic and Collaborative Dispatching of Heterogeneous Relief Resources considering Fairness",

   - International Symposium on Emergency Management, Wuhan, China, 2023.

3. "Dynamic Truck-UAV Collaboration Strategy for Resilient Urban Emergency Response"

   - Tongji-Polyu Postgraduate Research Workshop, HKSAR, China, 2023.
   - International Symposium on Emergency Management, Beijing, China, 2021.

4. "UAV-Assisted Emergency Response: An Interdisciplinary Perspective"

   - The 30th ISTE International Conference on Transdisciplinary Engineering, Hua Hin, Thailand, 2023.

5. "Collaborative vehicle dispatching for resilient and fair emergency response"

   - 2021 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), Online, 2021.

Services

- **Session Chair for**

  - IEEE International Conference on Industrial Engineering and Engineering Management, Singapore, 2021.

- **Reviewer for Journals**

  - International Journal of Disaster Risk Reduction
  - Reliability Engineering & System Safety
  - Expert Systems With Applications
  - Frontiers of Engineering Management
  - Operations Research Perspectives
  - The Journal of Supercomputing

- **Reviewer for Conferences**

  - The 2023 IEEE Conference on SMC, 2023

- **Volunteer for**

  - The 28th ATRS World Conference, July 1-4, 2025