

PETER ZHANG

pyzhang at cmu.edu
4800 Forbes Ave, Pittsburgh PA 15213

EMPLOYMENT

Carnegie Mellon University

Assistant Professor

2019 - Present

Heinz College of Information Systems and Public Policy

Courtesy appointment at Civil and Environmental Engineering

EDUCATION

Massachusetts Institute of Technology

PhD in Engineering Systems

2013 - 2019

Institute for Data, Systems, and Society

University of Toronto

MASc, Mechanical and Industrial Engineering

2011 - 2013

BASc, Engineering Science

2005 - 2011

PUBLICATIONS

1. Shehadeh, K., Wang, H., Zhang, P. (2021) *Fleet sizing and allocation for on-demand last-mile transportation systems*. Transportation Research Part C, Volume 132, November 2021.
2. Streitmatter, L., Zhang, P. (2021) *Travel cadence and epidemic spread*. Winter Simulation Conference 2021.
3. Simchi-Levi, D., Trichakis, N., Zhang, P. Y. (2019) *Designing response supply chain against bioattacks*. Operations Research, 67(5):1246-1268.
 - INFORMS Koopman Prize (2020)
 - Second place in POMS HOCM paper competition (2018)
 - Second place in POMS SCM student paper competition (2017)
 - MSOM SIG (2017)
4. Tran, T.T., Zhang, P.Y., Li, H., Down, D., Beck, J.C. (2018) *Multi-Stage Resource-Aware Scheduling for Data Centers with Heterogenous Servers*. Journal of Scheduling, 21(2):251-267.
5. Zhang, P. Y., Kuo, J. Y. J., Romero, D. A., Chan, T. C. Y., Amon, C. H. (2017) *Robust Wind Farm Layout Optimization*. Advances and Trends in Optimization with Engineering Applications. 367-375.
6. Simchi-Levi, D., Schmidt, W., Wei, Y., Zhang, P. Y., Combs, K., Ge, Y., Gusikhin, O., Sander, M., and Zhang, D. (2015) *Identifying risks and mitigating disruptions in the automotive supply chain*. INFORMS Journal on Applied Analytics, 45(5):375-390.
 - Ford Engineering Excellence Award (2015)
 - INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice (2014)
7. Tran, T.T., Zhang, P.Y., Li, H., Down, D., Beck, J.C. (2015) *Resource-Aware Scheduling for Data Centers with Heterogenous Servers*. Multidisciplinary International Conference on Scheduling: Theory & Applications, Prague, Czech Republic, August 25th-28th, 2015.

8. Turner, S. D. O., Zhang, P. Y., Romero, D., Chan, T. C. Y. (2014) *A new mathematical programming approach to optimizing wind farm layouts*. Renewable Energy, 63:674-680.
9. Zhang, P. Y., Romero, D., Beck, J. C., Amon, C. (2014) *Solving Wind farm layout optimization with mixed integer programs and constraint programs*. EURO Journal on Computational Optimization, 2(3):195-219.
10. Kwong, P., Zhang, P. Y., Romero, D., Moran, J., Morgenroth, M., and Amon, C. (2014) *Multi-objective wind farm layout optimization with non-dominated sorting genetic algorithm (NSGA-II)*. Journal of Mechanical Design, 136(9):091010.
11. Zhang, P.Y., Metcalfe, M., Cheng, Y.-L. (2013) *Redefining affluence in China: carbon emission from private transportation*. The 3rd Climate Change Technology Conference, Montreal, Quebec, May 27-29, 2013.
12. Zhang, P.Y., Romero, D., Beck, J.C., Amon, C. (2013) *Solving wind farm layout optimization with mixed-integer programming and constraint programming*. CPAIOR 2013: 10th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming, IBM T. J. Watson Research Center, Yorktown Heights, New York, May 18-22, 2013.
13. Kwong, P., Zhang, P.Y., Romero, D., Moran, J., Morgenroth, M., and Amon, C. (2012) *Wind farm layout optimization considering energy generation and noise propagation*. Proceedings of the ASME International Design Engineering Technical Conferences, Chicago, Illinois, August 12-15, 2012.

PATENTS

Global optimizer for supply chain

Blockchain-enabled what-if simulator to estimate impact of information sharing in supply chain

TEACHING

94-867 Decision Analytics for Business and Policy

95-760 Decision Making Under Uncertainty

GRANTS AND SPONSORED RESEARCH

- Controlled Deployment of Analytical Solutions for Essential Transportation Services in Low-Income Neighborhoods (PI). *Mobility21, USDOT National University Transportation Center*.
- Bayer AG Supply Chain Resilience. *Sponsored Research*.
- Critical technology and critical supply chains (technical lead). *Carnegie Mellon University Moonshot Grant*.
- Demand learning and supply optimization for last-mile transportation in disadvantaged neighborhoods (PI). *Mobility21, USDOT National University Transportation Center*.
- Joint optimization of school bus routes and last mile services (PI). *Mobility21, USDOT National University Transportation Center*.

AWARDS

INFORMS Junior Faculty Forum Paper Competition first place (2022)

INFORMS Koopman Prize winner (2020)

POMS Humanitarian Operations and Crisis Management Paper Competition second place (2018)

POMS Supply Chain Management Student Paper Competition second place (2017)

Ford Engineering Excellence Award (2015)

INFORMS Wagner Prize for Excellence in Operations Research Practice winner (2014)
Gordon Cressy Student Leadership Award (University of Toronto) (2013)
Top score, Canadian Euclid Mathematics Contest (2004)
Bronze medal, International Physics Olympiad (2004)

REVIEW SERVICE

Management Science, Math Programming, Transportation Science, Transportation Research, Decision Analysis, Naval Research Logistics, Production and Operations Management, European Journal of Operational Research, Computers and Operations Research, MSOM SIG, American Society of Mechanical Engineers conferences, INFORMS Koopman Prize Committee.

PROFESSIONAL SOCIETIES

Institute for Operations Research and the Management Sciences
Canadian Operational Research Society

MENTORSHIP

Postdoc

- Alberto Japón (2022 – present)
- Ningji Wei (2020 – 2022).

PhD

- Hao Hao (2021 – 2026).
- Guanting Wu (2022 – 2027)

PhD Proposal/Exam/Dissertation Committee

- Yuyan Wang (Tepper). Neha (Tepper). Matthew Battifarano (CEE). Dini Maghfirra (EPP). Sagnik Das (Tepper). Lindsay Graff (CEE). Sizhe Ma (CEE). Kevin Freymiller (CEE). Zhufeng Fan (CEE). Ozgun Elci (Tepper). Rick Grahn (CEE).