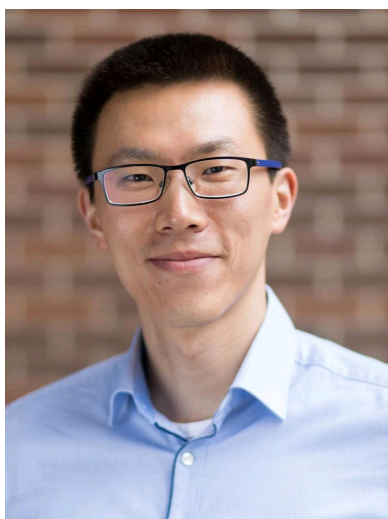


# Chemical Engineering & Materials Science

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## UNIVERSITY OF MINNESOTA



### Qi Zhang

**Assistant Professor**

#### Contact Information

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Phone: 612/625-0014

#### Education

B.S., Mechanical Engineering, RWTH Aachen University, 2011

M.S., Chemical Engineering, Imperial College London, 2012

Ph.D., Chemical Engineering, Carnegie Mellon University, 2016

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#### Research Areas

Applied & Computational Mathematics

Energy

Systems Engineering

#### Research Interests

Our research in the area of process systems engineering lies at the intersection of chemical engineering and operations research, focusing on computational discovery and decision making in complex process systems. We develop mathematical models and algorithms capable of considering intricate decision processes, incorporating uncertainty and active learning, capturing interactions between multiple agents, and solving large-scale real-world optimization problems.

Our work is highly quantitative and interdisciplinary. We apply our tools to solve a wide range of problems in the design and operation of sustainable energy and process systems, advanced manufacturing, supply chain optimization, data analytics, and systems biology.

#### Awards

W. David Smith Jr. Graduate Publication Award (2019)

Mark Dennis Karl Teaching Assistant Award (2014, 2016)

Geoffrey Hewitt Prize (2012)

Dr. Jürgen Ulderup Fellowship (2011)

DAAD ISAP Fellowship (2009)

#### Selected Publications

Zhang, Q. & Feng, W. (2020). A unified framework for adjustable robust optimization with endogenous uncertainty. *AIChE Journal*, e17047.

Allman, A. & Zhang, Q. (2020). Dynamic location of modular manufacturing facilities with relocation of individual modules. *European Journal of Operational Research*, 286, 494-507.

Zhang, Q. & Grossmann, I. E. (2016). Enterprise-wide optimization for industrial demand side management: Fundamentals, advances, and perspectives. *Chemical Engineering Research & Design*, 116, 114-131.

Zhang, Q., Lima, R. M., & Grossmann, I. E. (2016). On the relation between flexibility analysis and robust optimization for linear systems. *AIChE Journal*, 62(9), 3109-3123.

Zhang, Q., Morari, M. F., Grossmann, I. E., Sundaramoorthy, A., & Pinto, J. M. (2016). An adjustable robust optimization approach to scheduling of continuous industrial processes providing interruptible load. *Computers & Chemical Engineering*, 86, 106-119.

Zhang, Q., Grossmann, I. E., Sundaramoorthy, A., & Pinto, J. M. (2016). Data-driven construction of Convex Region Surrogate models. *Optimization & Engineering*, 17(2), 289-332.