

# Cheng Guo

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## CONTACT INFORMATION

Website: <https://chengg04.github.io>

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## RESEARCH INTERESTS

- Application areas: Energy markets, Nonconvex market pricing, Power systems, Computational mechanism design, Healthcare
- Methodologies: Copositive Programming, Stochastic programming, Integer programming, Mixed-integer nonlinear programming, Decomposition methods

## EXPERIENCE

**Clemson University**, Clemson, SC 2021 - present  
*School of Mathematical and Statistical Sciences*  
Assistant Professor, area: Operations Research

## EDUCATION

**University of Toronto**, Toronto, ON 2017 - 2021  
*Department of Mechanical and Industrial Engineering*  
Ph.D. in Industrial Engineering

- Advisor: Merve Bodur

**Columbia University**, New York, NY 2015 - 2017  
*Department of Industrial Engineering and Operations Research*  
M.S. in Operations Research

**Wuhan University**, Wuhan, China 2011 - 2015  
*School of Economics and Management*  
B.A. in Economics  
B.S. in Mathematics

- Hongyi Outstanding Graduates Award

## PUBLICATIONS

*Journal Articles*

**C. Guo**, M. Bodur, D. J. Papageorgiou, *Generation Expansion Planning with Revenue Adequacy Constraints*, **Computers & Operations Research**, 2022. [\[pdf\]](#)

**C. Guo**, M. Bodur, D. M. Aleman, and D. R. Urbach, *Logic-based Benders Decomposition and Binary Decision Diagram Based Approaches for Stochastic Distributed Operating Room Scheduling*, **INFORMS Journal on Computing**, 2021. [\[pdf\]](#)

*Submitted*

**C. Guo**, M. Bodur, J. A. Taylor, *Copositive Duality for Discrete Markets and Games*, submitted, 2021. [\[pdf\]](#)

## PAPERS IN PREPARATION

A. Deza, **C. Guo**, M. Bodur, *A Multistage Stochastic Integer Programming Approach to Distributed Operating Room Scheduling*, in preparation.

- Selected as a finalist in 2020 INFORMS Undergraduate OR Prize Competition.

**C. Guo**, M. Bodur, H. Nagarajan, *Tightening Quadratic Convex Relaxations for the AC Optimal Transmission Switching Problem*, in preparation.

## HONORS AND AWARDS

MIP Workshop Student Travel Support, 2019  
Bert Wasmund Graduate Fellowships in Sustainable Energy Research, 2018  
MIE Graduate Student Travel Grant, 2018  
Economics and Management School Scholarship, 2013 - 2014

## TEACHING EXPERIENCE

**University of Toronto**, Toronto, ON

- MIE 562 - Scheduling (undergraduate elective / graduate) Fall 2019, Fall 2020  
Tutorial teaching assistant
- MIE 335 - Algorithms and Numerical Methods (undergraduate core course) Winter 2019  
Tutorial teaching assistant

**Wuhan University**, Wuhan, China

- Probability Theory (undergraduate core course) Fall 2014  
Teaching assistant

## STUDENT SUPERVISION

Anna Deza (co-supervised, B.A.Sc. 2020 → University of California, Berkeley Ph.D.)  
Ryan Do (co-supervised, B.A.Sc. 2019 → University of Toronto M.Eng.)

## CONFERENCES AND TALKS

*Copositive Duality for Discrete Markets and Games*

- INFORMS Annual Meeting, Anaheim, CA October 2021
- International Conference on Game Theory (poster), Virtual July 2021
- IPCO Conference (poster), Virtual June 2021
- CORS Annual Conference, Virtual June 2021
- MIP Workshop (poster), Virtual May 2021
- Grid Science Winter School (poster), Virtual January 2021
- Discrete Optimization Talks, Virtual December 2020
- INFORMS Annual Meeting, Virtual November 2020

*Logic-based Benders Decomposition and Binary Decision Diagram Based Approaches for Stochastic Distributed Operating Room Scheduling*

- INFORMS Annual Meeting, Seattle, WA October 2019
- DIMACS Workshop on MINLP (poster), Montreal, QC October 2019
- Optimization Days, Montreal, QC May 2019

*Generation Expansion Planning with Revenue Adequacy Constraints*

- INFORMS Annual Meeting, Seattle, WA October 2019
- MIP Workshop (poster), Boston, MA July 2019
- INFORMS Computing Society Conference, Knoxville, TN January 2019

ACADEMIC  
SERVICE

- Reviewer for *INFORMS Journal on Computing, Transportation Science*
- Session Chair for INFORMS Annual Meeting 2019, 2021; CORS Annual Meeting 2021

OTHER  
ACTIVITIES

- INFORMS UofT Student Chapter (Honorable Mention, 2020), Vice President (2019-2021)
- Columbia IEOR Mentorship Program, Mentor (2018-2020)
- Wuhan U. Women Soccer Team, Captain (2013-2015)