Cheng Guo

CONTACT INFORMATION	*Website:* https://chengg04.github.io *E-mail:* cguo2@clemson.edu

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. 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]

C. Guo, M. Bodur, D. J. Papageorgiou, *Generation Expansion Planning with Revenue Adequacy Constraints*, under review, 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)