

Ryan Cory-Wright

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Education **Massachusetts Institute of Technology**, Cambridge, MA
Candidate for PhD in Operations Research; expected completion, June 2021. GPA: 5.0
Advisor: Prof. Dimitris Bertsimas

University of Auckland, Auckland, New Zealand
BE (Hons) in Engineering Science, May 2017. GPA 8.84/9.00.
Thesis title: *Pricing Wind Under Uncertainty*
Advisors: Profs. Andy Philpott and Golbon Zakeri.
Completed in three years via the accelerated pathway program; a highly intensive program which comprises direct entry to part II and three additional courses per year.

Work and Research Experience

2017-Present **Massachusetts Institute of Technology**, Cambridge, MA
Research Assistant
Advisor: Dimitris Bertsimas
Developing scalable algorithms for solving mixed-integer quadratic programs exactly. More generally, working on providing high-quality interpretable solutions to problems which arise at the intersection of optimization and machine learning.

2016-2017 **University of Auckland**, Auckland, New Zealand
Research Assistant
Advisor: Golbon Zakeri
Worked on methods for incorporating intermittent renewable energy into wholesale electricity markets via stochastic optimization. This comprised back-testing a stochastic dispatch mechanism on the New Zealand Electricity Market, and measuring the impact which changing the dispatch mechanism would have; on both the aggregate system and individual participants.

2014-2016 **Derceto Ltd**, Auckland, New Zealand
Assistant Optimization Engineer
Assisted with installing a pump-scheduling optimization tool for two municipal water providers. Created a VBA/SQL tool to automate a 9-step process for updating historical demand curves, which currently saves Derceto 30 hours per client per year. Upgraded several other VBA tools.

Publications

"Scalable algorithms for sparse and robust portfolios", with Dimitris Bertsimas, working paper.

"On efficiency, savings, wealth transfers and risk-aversion in electricity markets with uncertain supply", with Golbon Zakeri, working paper.

"Payment mechanisms for electricity markets with uncertain supply", with Andy Philpott and Golbon Zakeri, Operations Research Letters. **46**(1):116-121, 2018. <https://doi.org/10.1016/j.orl.2017.11.017>

Presentations

"Stochastic Scheduling Pricing and Dispatch", with Golbon Zakeri and Andy Philpott, presented at the EPOC mini workshop, July 2017.

"Cost-Recovering, Revenue-Adequate Single-Settlement Schemes for Electricity Markets", with Andy Philpott and Golbon Zakeri, presented at ORSNZ, December 2016.

Honors and Awards

- 2016** Operations Research Society of New Zealand Young Practitioner Prize Competition, 1st Place
"Cost-Recovering, Revenue-Adequate Single-Settlement Schemes for Electricity Markets", with Andy Philpott and Golbon Zakeri.
For the best conference paper by a presenter within 5 years of graduation.
- 2016** Senior Scholar Award, University of Auckland
For the highest GPA within graduating students in Engineering Science.
- 2014-2016** Deans Honours List x3, Faculty of Engineering, University of Auckland
For earning a GPA within the top 5% of students in Engineering Science in a calendar year.
- 2014-2016** First in Course Award x5, University of Auckland
For earning the highest mark in a course at the University of Auckland.
- 2013** NZQA Outstanding Scholar Award
For placing in the top 50 students in the 2013 NZQA scholarship exams.

Skills and Activities

Programming Languages: Julia, R, SQL, MATLAB, C++, HTML, CSS.

Optimization Software: JuMP, AMPL, GAMS, Gurobi, CPLEX.

Software: LaTeX, InDesign, Photoshop.

Languages: English (native), French (conversational), German (beginner).

Extracurriculars: Skiing, Running, Hiking, Water Polo.

- Citizenship** Citizen of New Zealand, Ireland.