# Ryan Cory-Wright

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**Education**

**Massachusetts Institute of Technology,** Cambridge, MA
Candidate for PhD in Operations Research; expected completion, May 2022. GPA: 5.0
Advisor: Dimitris Bertsimas

**University of Auckland, Auckland, New Zealand**
BE (1st Class Honours) in Engineering Science, May 2017. GPA 8.84/9.00.
Advisors: Andy Philpott, Golbon Zakeri.

**Publications**

*"On Polyhedral and Second-Order Cone Decompositions of Semidefinite Optimization Problems"*, with Dimitris Bertsimas, in preparation, targeted for Operations Research Letters.

*"On Stochastic Auctions in Risk-Averse Electricity Markets With Uncertain Supply"*, with Golbon Zakeri, in preparation, targeted for Operations Research Letters.

*"A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms"* with Dimitris Bertsimas and Jean Pauphilet, Operations Research, under review.

*"A Scalable Algorithm for Sparse Portfolio Optimization"*, with Dimitris Bertsimas.
Operations Research (under major revisions, originally submitted June 2018).

*"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

- Young Practitioner's Prize, Operations Research Society of New Zealand.

**Presentations**

*"A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms"*, with Dimitris Bertsimas and Jean Pauphilet, presented at ICCOPT, August 2019; INFORMS, October 2019.

*"A Scalable Algorithm for Sparse and Robust Portfolios"*, with Dimitris Bertsimas, presented at INFORMS, November 2018; ORC 65th Anniversary (poster), November 2018; LIDS student conference, January 2019; MIP Workshop (poster), July 2019.

*"Payment Mechanisms and Risk-Aversion in Electricity Markets With Uncertain Supply"*, with Golbon Zakeri, presented at EPOC mini workshop, July 2017; ISMP Bordeaux, July 2018.

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

**Honors and Awards**

**2017** Senior Scholar Award, University of Auckland (top of graduating engineering class).

**2016** Young Practitioner's Prize, Operations Research Society of New Zealand.

**2014-2016** Deans Honours List, Faculty of Engineering, University of Auckland**.**

**2014-2016** First in Course Award x5, University of Auckland.
**2013** NZQA Outstanding Scholar Award (top 50 high school students in New Zealand).

**Work and Research Experience**

**2017-Present** **Massachusetts Institute of Technology,** Cambridge, MA
*Research Assistant*
Advisor: Dimitris Bertsimas
Developing high-quality interpretable solutions to problems which arise at the intersection of optimization and machine learning; for instance, sparsity-constrained optimization problems.

**2016-2017** **University of Auckland**, Auckland, New Zealand
*Research Assistant*
Advisor: Golbon Zakeri
Developed methods for incorporating intermittent renewable energy into wholesale electricity markets via stochastic optimization. This comprised back-testing a stochastic dispatch mechanism, extending the mechanism to incorporate risk-aversion, and measuring the impact of the mechanism on the market.

**2014-2016** **Derceto Ltd**, Auckland, New Zealand
*Assistant Optimization Engineer*
Assisted with installing a pump-scheduling optimization tool for two municipal water providers. Refurbished 5+ VBA spreadsheet tools used in day-to-day operations.

**Teaching Experience**

**IAP 2019** **15.S60 Computing in Operations Research and Statistics TA,** Instructors in Charge: Brad Sturt
Taught a 3-hour session which aims to provide PhD students with an overview of state-of-the-art software tools used in optimization and statistics. Material available here.

**Fall 2018** **15.093 Optimization Methods TA,** Instructor in Charge: Bart Van Parys
Teaching assistant for a course which aims to provide masters students with a unified overview of the main algorithms and areas of application in optimization.
Duties: Assisting students, leading recitations, writing and marking assignments and exams.

**Service**

**2018-2019** **Reviewer,** European Journal of Operational Research

**Skills and Activities**

*Programming Languages:* Julia, R, VBA, SQL, MATLAB, C++, HTML, CSS.
*Optimization Software:* JuMP, AMPL, GAMS, Gurobi, CPLEX, MOSEK.
*Software:* LaTeX, InDesign, Photoshop.
*Languages:* English (native), French (conversational), German (beginner).

*Extracurriculars:* Skiing, Running, Hiking, Water Polo.

**Citizenship** Citizen of New Zealand, Ireland.