

# Ryan Cory-Wright

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

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

**Research Interests**      **Methodological:** Optimization (discrete/conic/stochastic/robust), machine learning, statistics  
                                  **Applications:** Finance, energy (market design/renewable integration)

## Publications

*A Unified Framework for Low Rank Optimization*  
with Dimitris Bertsimas, Jean Pauphilet, to be submitted to SIAM Review.

*On Stochastic Auctions in Risk-Averse Electricity Markets With Uncertain Supply*  
with Golbon Zakeri, Operations Research Letters, under review.

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

- Awarded 1<sup>st</sup> place, INFORMS Computing Society Student Paper Competition (2019).

*A Scalable Algorithm for Sparse Portfolio Selection*  
with Dimitris Bertsimas, Operations Research, under 2<sup>nd</sup> round of review (submitted June 2018).

*On Polyhedral and Second-Order Cone Decompositions of Semidefinite Optimization Problems*  
with Dimitris Bertsimas, Operations Research Letters. **48**(1):78-85, 2020

*Payment Mechanisms for Electricity Markets With Uncertain Supply*  
with Andy Philpott and Golbon Zakeri, Operations Research Letters. **46**(1):116-121, 2018.

- Awarded 1<sup>st</sup> place, ORSNZ Young Practitioner's Prize (2016).

## Talks

*A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms*  
Presented at: ICCOPT, August 2019; INFORMS Annual Meeting, October 2019; MIT ORC Student Seminar Series (invited), November 2019; LIDS student conference, January 2020.

*A Scalable Algorithm for Sparse and Robust Portfolios*  
Presented at: INFORMS, November 2018; LIDS student conference, January 2019.

*Payment Mechanisms and Risk-Aversion in Electricity Markets With Uncertain Supply*  
Presented at: EPOC mini workshop, July 2017; ISMP Bordeaux, July 2018.

*Cost-Recovering, Revenue-Adequate Single-Settlement Schemes for Electricity Markets*  
Presented at: ORSNZ, December 2016.

## Honors and Awards

**2019**      First place, INFORMS Computing Society (ICS) Student Paper Award  
                  For: *A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms*

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

- 2016** First place, Young Practitioner's Prize, Operations Research Society of New Zealand.  
For: *Payment Mechanisms for Electricity Markets With Uncertain Supply*
- 2014-2016** Deans Honours List, Faculty of Engineering, University of Auckland (top 5% of class).
- 2014-2016** First in Course Award x5, University of Auckland.
- 2013** NZQA Outstanding Scholar Award (top 50 high school students in New Zealand).

### Research Experience

- 2017-Present** **Massachusetts Institute of Technology, Cambridge, MA, USA**  
*Research Assistant.* Advisor: Dimitris Bertsimas
- 2016-2017** **University of Auckland, Auckland, New Zealand**  
*Research Assistant.* Advisor: Golbon Zakeri

### Teaching Experience

- IAP 2020** **15.S60 Computing in Operations Research and Statistics Instructor** (MSc/PhD level).  
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 2019** **15.095 Machine Learning Under a Modern Optimization Lens TA** (MBaN/MSc/PhD level).  
Instructor in charge: Dimitris Bertsimas  
Teaching assistant for a course which provides masters/PhD students with a modern treatment of Machine Learning using the lenses of convex, robust and mixed-integer optimization.  
Duties: Assisting students, leading recitations, writing and marking assignments and exams.
- Summer 2019** **15.089 Analytics Capstone Project: Student Mentor.** Instructor in charge: Dimitris Bertsimas  
Advised a project completed by two MBaN students, who applied prescriptive analytics to prescribe actions which optimize fund flows for a large investment management company.
- IAP 2019** **15.S60 Computing in Operations Research and Statistics Instructor** (MSc/PhD level).  
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** (MBaN/MSc level). 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.
- Summer 2018** **15.089 Analytics Capstone Project: Student Mentor.** Instructor in charge: Dimitris Bertsimas  
Advised a project completed by two MBaN students, who applied machine learning techniques to predict fund flows at the financial advisor level for a large investment management company.
- Mentees received an award for the best capstone presentation in their graduating class.

### Work Experience

- 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.

### Professional Activities and Service

- 2019-present** **Coordinator**, MIT ORC Student Seminar Series
- 2019** **Session Chair**, INFORMS 2019 Annual Meeting
- 2019** **Tester and Proctor**, MIT Operations Research Center Qualifying Exam
- 2018-present** **Reviewer**, European Journal of Operational Research; IEEE Transactions on Power Systems; INFORMS Journal On Computing.

### Skills and Activities

*Programming Languages:* Julia (preferred), R, VBA, SQL, MATLAB, C++, HTML, CSS.  
*Optimization Software:* JuMP (preferred), CPLEX (preferred), MOSEK (preferred), most languages/solvers.

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

*Extracurriculars:* Skiing, Running, Hiking.

**Citizenship**

Citizen of New Zealand, Ireland.