Ryan Cory-Wright

Operations Research Center   Email: ryancw@mit.edu
Massachusetts Institute of Technology   Cell: 617-955-5710
77 Massachusetts Avenue, E40-103
Cambridge, MA 02139
Website: ryancorywright.github.io

Education   **Massachusetts Institute of Technology,** Cambridge, MA
Candidate for PhD in Operations Research; expected completion, May 2022. 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.

Publications

"A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms"
with Dimitris Bertsimas and Jean Pauphilet, In Preparation.

"On stochastic auctions in risk-averse electricity markets with uncertain supply", with Golbon Zakeri,
In Preparation.

"A scalable algorithm for sparse and robust portfolios", with Dimitris Bertsimas.
Operations Research (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 scalable algorithm for sparse and robust portfolios", with Dimitris Bertsimas, presented at
INFORMS, November 2018; LIDS student conference, January 2019.

"Payment mechanisms and risk-aversion in electricity markets with uncertain supply", with Golbon
Zakeri, presented at ISMP Bordeaux, July 2018.

"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

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 on the New Zealand Electricity Market, extending the stochastic dispatch mechanism to incorporate risk-aversion, and measuring the impact of the dispatch mechanism on the aggregate system.

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. Refurbished 5+ existing VBA spreadsheet tools used in day-to-day operations.

Teaching Experience

IAP 2019   **15.S60 Computing in Operations Research and Statistics TA,** Instructor in Charge: Brad Sturt
Teaching assistant for an IAP course which aims to provide PhD students with an overview of state-of-the-art software tools used in optimization and statistics.

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.