# Regan Baucke

CERMICS Laboratory
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Born: July 17, 1992—Auckland, New Zealand
Nationality: New Zealand
Language: English

## Current position

*Post-doctoral researcher*, CERMICS, Ecole des Ponts ParisTech.

## Areas of specialisation

My expertise lie in stochastic programming, especially algorithms in multistage stochastic programming. The foremost theme of my thesis is multistage minimax dynamic programmes; we outline a new algorithm for solving such problems, study the algorithm's convergence properties and develop risk-averse stochastic programming formulations in the minimax framework.

My post-doctoral research focuses on attaining computable, sure, bounds in stochastic programming and analysing the convergence of such bounds.

## Education

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| 2018 | PHD in Operations Research, University of Auckland |
| 2014 | BE (HONS) in Engineering Science (First class honours), University of Auckland |

## Awards

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| 2018 | Les sciences mathématiques, porteuses d'innovation Post-doctoral Laureate |
| 2015 | University of Auckland Doctoral Scholarship, University of Auckland |
| 2015 | Energy Education Trust of New Zealand Doctoral Scholarship, EETNZ |

# Publications & talks

### Journal articles

2018a    Baucke, Downward, Zakeri. A deterministic algorithm for solving stochastic minimax dynamic programmes, *Optimization Online. Under review with Mathematics of Operations Research.*

2018b    Downward, Dowson, Baucke. On the convergence of a cutting plane method for multistage stochastic programming problems with stagewise dependent price uncertainty, *Under review with Operations Research Letters.*

2018c    Baucke. An algorithm for solving infinite horizon Markov dynamic programmes, *Optimization Online. Under review with Operations Research Letters.*

### Talks

2018    Minimax dynamic programmes, *International Symposium on Mathematical Programming, Bordeaux*

2017    A deterministic algorithm for solving multistage stochastic programming problems, *INFORMS General Meeting, DOS Seminar at ISYE Georgia Tech, Industrial Engineering and Management Sciences Talk at Northwestern.*

2016    Multistage risk aversion applied to the electricity sector, *INFORMS International Meeting*

# Teaching

2015-16    Teaching Assistant - ENGEN 131 "Engineering Computation and Software Development"

2015-16    Teaching Assistant - ENGSCI 391 "Optimisation in Operations Research"

# Groups & Organisations

2014-18    Operations Research Society of New Zealand Student Member

2015    Graduate Researcher within the Energy Centre at The University of Auckland

2015-18    Graduate Student Researcher at The Electrical Power Optimisation Center (EPOC): a research group within the Department of Engineering Science.

2016-18    INFORMS Student Member.

# References

Assoc Prof. Golbon Zakeri, *PhD Supervisor.* Contact email: g.zakeri@auckland.ac.nz

Dr. Anthony Downward, *PhD Supervisor.* Contact email: a.downward@auckland.ac.nz

Prof. Andy Philpott, *EPOC Codirector.* Contact email: a.philpott@auckland.ac.nz

Dr. Vincent Leclere, *Post-doctoral Supervisor.* Contact email: vincent.leclere@enpc.fr

Prof. Tito Homem-de-Mello, *Thesis referee.* Contact email: tito.hmello@uai.cl