

David Cornelis Groothuizen Dijkema

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[University of Auckland profile](#)

Education

University of Auckland

Doctoral Candidate in Mathematics

Mar. 2022 – present

Thesis topic: Dynamical dependence on topology of symmetric heteroclinic networks

Supervisors: Assoc. Prof. Claire M. Postlethwaite and Prof. Vivien Kirk

Bachelor of Science (Honours)

2021

with First Class Honours in Applied Mathematics

Honours Dissertation: A heteroclinic network in a spatially-extended four species interaction model

Supervisor: Assoc. Prof. Claire M. Postlethwaite

Bachelor of Engineering (Honours)

2017 – 2020

with First Class Honours in Engineering Science

Part IV Project: Synthetic-aperture radar processing on the NVidia Jetson AGX Xavier

Supervisors: Dr. John E. Cater and Dr. Nicholas J. Rattenbury

Howick College

2011 – 2015

NZQA Scholarships English and History, Outstanding

University Entrance

NCEA Levels 1, 2, & 3, endorsed with Excellence

Preprints

David C Groothuizen Dijkema and Claire M Postlethwaite. (2023). Travelling waves and heteroclinic networks in models of spatially-extended cyclic competition.

Nonlinearity, **36**(12) 6546–6588. DOI: [10.1088/1361-6544/ad0212](https://doi.org/10.1088/1361-6544/ad0212).

arXiv: [2208.05630](https://arxiv.org/abs/2208.05630) [[math.DS](#)]

David C Groothuizen Dijkema, Vivien Kirk, and Claire M Postlethwaite. (2023). Switching near heteroclinic networks in \mathbb{R}^4 . *In preparation*.

Awards and scholarships

University of Auckland Department of Mathematics

2021

Student Research Conference prize

First in Course Award in MATHS 761 (Dynamical Systems)

University of Auckland Postgraduate Honours Scholarship

University of Auckland Summer Research Scholarship

2020 – 2021

First in Course Award in ENGSCI 355 (Applied Modelling in Simulation and Optimisation)

2019

University of Auckland Faculty of Engineering

2017, 2018, 2019

Dean's Honours List

Howick College Senior Scholar (Dux)

2015

Howick College Award, for outstanding commitment

Teaching positions

University of Auckland

Department of Mathematics, Faculty of Science

Jul. 2022 – present

Graduate Teaching Assistant for

COMPSCI 120 (Mathematics for Computer Science)

MATHS 120 (Algebra I)

MATHS 130 (Calculus I)

MATHS 253 (Algebra and Calculus III)

MATHS 260 (Differential Equations)

	Department of Engineering Science, Faculty of Engineering Teaching Assistant for ENGSCI 255 (Modelling and Analytics in Operations Research) ENGSCI 211 (Mathematical Modelling II)	Mar. 2020 – Nov. 2020
Employment history	Suez Smart Solutions Ltd. Assistant Optimisation Engineer	Nov. 2019 – Mar. 2020
	Watercare Services Ltd. Undergraduate Engineer	Oct. 2018 – Nov. 2019
Professional affiliations	New Zealand Mathematical Society (NZMS) Australia and New Zealand Industrial and Applied Mathematics (ANZIAM) Society for Industrial and Applied Mathematics (SIAM) Student member	