




QUINN ASENA






PhD candidate at the University of Auckland studying regime shifts in terrestrial ecosystems. Incorporating palaeoecological techniques and modelling. Investigating a range of resilience indicators / early warning signals and their application to palaeoecological data. Developed a multi-species-response model for investigating regime shifts.

Previously researched environmental monitoring using sensor networks and robotics.

EDUCATION

- Present
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2017
- **PhD. Candidate, Environmental Science**
University of Auckland  Auckland, NZ
 - Working on regime shift modelling and palaeoecology
 - Supervised by George Perry and Janet Wilmshurst
- 2016
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2012
- **MEnv. Environmental Science**
University of York  York, UK
 - 1st class degree: Integrated masters degree in environmental science
 - Courses included: Ecological Principles; Biogeography, Applied Ecology and Environmental Management; Protected Areas; Design and Implementation; Climate Change: Science, Observation & Impacts; Research Skills and Statistical Methods
- 2010
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2005
- **Music School**
Royal Academy of Music  London, UK
 - Study in performance, composition and musical theory. Multiple competition awards
 - ABRSM Grade 8 Piano Performance
 - ABRSM Grade 5 Music Theory

SELECTED POSITIONS

- 2019
- **Graduate Teaching Assistant and Assistant Coordinator**
University of Auckland  Auckland, NZ
 - GTA and assistant coordinator for Discovering Environmental Modelling
 - Guest lecturer on population growth
 - Developed application as a teaching aid: [shiny app for lecture](#) and [lecture slides](#)
- 2019
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2018
- **Graduate Teaching Assistant**
University of Auckland  Auckland, NZ
 - GTA: Natural and Human Environmental Systems; Discovering Environmental Modelling; and, Environmental Science and Management
- 2017
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2016
- **Research Assistant**
Stockholm Environment Institute  York, UK
 - Assisting in the reconstruction of fire regimes in the North York Moors
 - Core preparation and microscope analysis for charcoal and SCPs
 - Statistical analysis and compilation of data
- 2016
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2013
- **Student Ambassador**
University of York  York, UK
- 2015
- **IT Services Media Development Intern**
University of York  York, UK
 - Filming, editing, scripting and directing a series of short educational films
 - Creating posters

CONTACT



qase352@aucklanduni.ac.nz



[QuinnAsena](#)



[github.com/QuinnAsena](#)



+64 21 085 44986

ONLINE RESOURCES

`fisher`: R package for calculating Fisher's Information on time-series available at [github](#).

app [Population growth](#)

app [Population growth for lecture](#)

lecture [slides](#)

REFERENCES

Professor George Perry

george.perry@auckland.ac.nz

Associate Professor Janet M Wilmshurst

janet.wilmshurst@auckland.ac.nz

Additional references available on request



ARTICLES AND PUBLICATIONS

- 2019 ● **Guidelines for Reporting and Archiving ^{210}Pb Sediment Chronologies to Improve Fidelity and Extend Data Lifecycle**
Quaternary Geochronology
· Courtney-Mustaphi et al.
- 2019 ● **Response to comment on Peatland carbon stocks and burn history: Blanket bog peat core evidence highlights charcoal impacts on peat physical properties and long-term carbon storage by Evans et al.**
GEO: Geography and Environment
· Heinemeyer et al.
· Role: core preparation and microscopy - charcoal and spheroidal carbonaceous particles
- 2018 ● **Peatland carbon stocks and burn history: Blanket bog peat core evidence highlights charcoal impacts on peat physical properties and long-term carbon storage**
GEO: Geography and Environment
· Heinemeyer et al.
- 2018 ● **Population viability analyses in New Zealand: a review**
New Zealand Journal of Ecology
· Simpkins et al.
- 2018 ● **Assessing the links between resilience, disturbance and functional traits in paleoecological datasets**
New Zealand Journal of Past Global Changes Magazine, vol. 26(2), 87
· Hamilton et al.



PACKAGES AND APPS

- 2019 ● **fisher**
R package
· Translation of python script for calculating Fisher's Information on time-series data
· Code available on [github](#)
- 2019 ● **Population growth app**
Shiny app
· [Population growth app](#) exploring different population growth equations for educational purposes
- 2019 ● **Population growth lecture aid app**
Shiny app
· [App to accompany population growth lecture](#) and help students through population growth calculations

Courses

Attended several courses during my PhD to improve my software proficiency and scientific understanding including:

Software courses:

- Software Carpentry
- Winter Bootcamp
- Research Bazaar

University Papers/Modules:

- Environmental Data Analysis
- Modelling of Environmental Systems

Skills

- R programming
- High performance computing
- Microscopy
- ITRAX core scanning
- Peat core preparation



SELECT WORKSHOPS AND CONFERENCES

- 2019

INQUA
 International Union For Quaternary Research
 · Presentation on resilience

Dublin, Ireland
- 2019

Durham
 Durham University
 · Invited speaker on modelling resilience in ecosystems

Durham, UK
- 2019

Biological Heritage Science Challenge
 University of Canterbury
 · Speaker

Christchurch, NZ
- 2018

International Swiss Climate Summer School Earth systems variability through time: processes, observations and models
 University of Bern
 · Poster presentation and participant
 · Accredited course worth 3 ECTS credits

Bern, Switzerland
- 2018

Te Punaha Matatini Biomaths
 University of Auckland
 · Speaker

Auckland, NZ
- 2018

EcoRe3: Resistance, Recovery and Resilience in Long-term Ecological Systems
 PAGES - University of Utah
 · Speaker

Utah, USA
- 2018

Paleodata Demo Derby Workshop
 University of Wisconsin
 · Participant

Wisconsin, USA
- 2017

Biological Heritage Science Challenge
 University of Canterbury
 · Speaker

Christchurch, NZ



VOLUNTEERING AND OTHER EXPERIENCE

- 2016

Database Work for Literature Review
 · Literature review work for Assoc. prof. Andy Marshal (unpublished)

York, UK
- 2015

NightSafe Volunteer
 University of York
 · Student organisation taking care of student safety throughout the night in the City of York

York, UK
- 2015

Science and Outreach – York Institute for Tropical Ecosystems
 University of York
 · Developed short films and interviews overviewing the work done by the York Institute for Tropical Ecosystems (KITE)
 · [Link to film](#)
 · [Link to short](#)

York, UK

George Perry Lab

Interested in the lab group?
 Visit George Perry's lab group: [Spatial Ecology Group](#)

Hobbies and Interests

Keen musician improving my piano skills

Rock climber, if I'm not working I'm probably up a mountain. Been teaching rock climbing safety in the university club for two years

- 2014

York Students in Schools Volunteer

University of York

York, UK

· Volunteering as an assistant in school teaching a range of sciences
- 2012

Flood Defences – certified course

University of York

York, UK

· Design a flood defence plan for the City of York

· Team won first place
- 2012

Environment Department Media Development

University of York

York, UK

· Filming and editing a series of interviews of academics in the environment department for open-day presentations