

# QUINN ASENA

PhD candidate at the University of Auckland exploring ecosystem change using palaeoecological and modelling techniques. I develop ecological simulations to investigate underlying ecosystem dynamics and the reliability of statistical methods used in ecological analyses. I also get hands-on in the field and the lab.

Master's research involved environmental monitoring using sensor networks and robotics.

## EDUCATION

- Present  
|  
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  
|  
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  
|  
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

- Present  
|  
2021
- Research Assistant**  
University of Auckland  
Auckland, NZ
    - Conducting a bibliometric analysis on the topic of climate justice
- Present  
|  
2021
- Engagement Specialist**  
Centre for e-Research  
Auckland, NZ
    - Engaging with researchers to provide advice and resources for their data analysis and storage needs
    - Includes technical skills for virtual machines, high performance computing and version control
- 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  
|  
2018
- Graduate Teaching Assistant**  
University of Auckland  
Auckland, NZ
    - GTA: Natural and Human Environmental Systems; Discovering Environmental Modelling; and, Environmental Science and Management

## CONTACT



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[QuinnAsena](https://twitter.com/QuinnAsena)



[github.com/QuinnAsena](https://github.com/QuinnAsena)



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## 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](mailto:george.perry@auckland.ac.nz)

Associate Professor Janet M Wilmshurst  
[janet.wilmshurst@auckland.ac.nz](mailto:janet.wilmshurst@auckland.ac.nz)

Additional references available on request

- 2017  
|  
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  
|  
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



## ARTICLES AND PUBLICATIONS

- 2019
 **Guidelines for Reporting and Archiving  $^{210}\text{Pb}$  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.

### 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

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



## 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



## SELECTED 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

### 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*



## VOLUNTEERING AND OTHER EXPERIENCE

- 2016 ● **Database Work for Literature Review**  York, UK
- Literature review work for Assoc. prof. Andy Marshal (unpublished)
- 2015 ● **NightSafe Volunteer**  York, UK
- University of York
- Student organisation taking care of student safety throughout the night in the City of York
- 2015 ● **Science and Outreach - York Institute for Tropical Ecosystems**  York, UK
- 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](#)
- 2014 ● **York Students in Schools Volunteer**  York, UK
- University of York
- Volunteering as an assistant in school teaching a range of sciences
- 2012 ● **Flood Defences - certified course**  York, UK
- University of York
- Design a flood defence plan for the City of York
  - Team won first place
- 2012 ● **Environment Department Media Development**  York, UK
- University of York
- Filming and editing a series of interviews of academics in the environment department for open-day presentations