

# QUINN ASENA

Post-doctoral research associate developing and applying new statistical methods to palaeoecological data to understand ecosystem responses to environmental change. Working with Jack Williams and Tony Ives on data across North America on an NSF funded project: Abrupt Change in Ecosystems. I also like to get hands on in the field and lab.



## EDUCATION

2021  
|  
2017

### PhD, University of Auckland

School of Environment

📍 Auckland, NZ

- PhD explored virtual ecological methods for generating pseudoproxy data to assess statistical inferences under data uncertainty.
- Supervised by George Perry and Janet Wilmshurst

2016  
|  
2012

### MEnv. Environmental Science

University of York

📍 York, UK

- 1st class integrated masters degree in environmental science. Master's researched involved environmental monitoring using sensor networks and robotics.
- 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

### Certified Carpentries instructor

Global digital skills community

📍 Virtual

- Certified to host and assist in running workshops from [The Carpentries](#) organisation



## SELECTED POSITIONS

Present  
|  
2022

### Post-doctoral research associate

University of Wisconsin-Madison

📍 Madison, WI

- NSF grant, developing state-space modelling methods to analyse palaeoecological records
- Abrupt change in ecosystems project lead by Jack Williams and Anthony Ives

2022  
|  
2021

### Research Assistant

University of Auckland

📍 Auckland, NZ

- Conducting a bibliometric analysis on the topic of climate justice

2022  
|  
2021

### Engagement Specialist

Centre for e-Research

📍 Auckland, NZ

- Engaging with researchers to provide advice and resources for their research compute needs
- Includes technical skills for virtual machines (Linux, Bash, Slurm), high performance computing, and version control

## CONTACT

✉ [qasena@wisc.edu](mailto:qasena@wisc.edu)

🐦 [QuinnAsena](#)

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

📞 +1 (608) 598 8345

## ONLINE RESOURCES

Workshop: [Quarto for Colaboration](#)

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

app: [Population growth](#)

app: [Population growth for lecture](#)

Lecture: [Ecological modelling](#)

## REFERENCES

Professor Jack Williams

[jwwilliams1@wisc.edu](mailto:jwwilliams1@wisc.edu)

Professor George Perry

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

- 2021

● **Data Analyst**

Auckland Council 📍 Auckland, NZ

  - Role: analyse citizen science bird count data and write a technical report.
- 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
- 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



## ARTICLES AND PUBLICATIONS

- 2019

● **[Guidelines for Reporting and Archiving 210Pb 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](#)**

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, APPS AND RESOURCES

2023  
|  
2022

### Authoring collaborative research projects in Quarto

Workshop

- Workshop resources for hosting collaborative research projects using Git and GitHub
- Hosted on [GitHub for ResBaz 2022-2023](#)

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

Upcoming

### INQUA

International Union For Quaternary Research

📍 Rome, IT

- Lead Convenor: Data science and paleoecology: current intersections and advances

2023  
|  
2021

### ResBaz

Research Bazaar

📍 Auckland, NZ; Madison, WI

- Organiser and helper in ResBaz Aotearoa 2021
- Workshop lead on [Quarto for Collaboration](#) virtual session for ResBaz NZ 2022
- Workshop lead on [Quarto for Collaboration](#) in-person Madison, WI, 2023

2022

### BES: Palaeo in R

British Ecological Society

📍 Virtual

- Speaker on virtual ecological methods to assessing uncertainty in palaeoecological data using pseudoproxies

2022

### AGU

American Geophysical Union

📍 Chicago, IL

- Speaker on virtual ecological methods for assessing uncertainty in palaeoecological data using pseudoproxies

2022

### AMQUA

American Quaternary Association

📍 Madison, WI

- Poster session on virtual ecological methods to assessing uncertainty in palaeoecological data using pseudoproxies

2019

### INQUA

International Union For Quaternary Research

📍 Dublin, Ireland

- Speaker on pseudoproxy modelling for assessing statistical inferences

### George Perry Lab

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

### Williams Lab

Check out the [Williams lab](#)

### Ives Lab

See what the [Ives Lab](#) group  
do


### 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*


- 2019

**Durham**  
 Durham University
 

 Durham, UK


  - Invited speaker on modelling resilience in ecosystems
- 2019

**Biological Heritage Science Challenge**  
 University of Canterbury
 

 Christchurch, NZ


  - Speaker on resilience in ecosystems
- 2018

**International Swiss Climate Summer School Earth systems variability through time: processes, observations and models**  
 University of Bern
 

 Bern, Switzerland


  - Poster presentation and participant
  - Accredited course worth 3 ECTS credits
- 2018

**Te Punaha Matatini Biomaths**  
 University of Auckland
 

 Auckland, NZ


  - Speaker
- 2018

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

 Utah, USA


  - Speaker on modelling resilience in ecosystems
- 2018

**Paleodata Demo Derby Workshop**  
 University of Wisconsin
 

 Wisconsin, USA

  - Participant
- 2017

**Biological Heritage Science Challenge**  
 University of Canterbury
 

 Christchurch, NZ


  - Speaker



## VOLUNTEERING AND OTHER EXPERIENCE


- 2016

**Database Work for Literature Review**

 York, UK


  - Literature review work for Assoc. prof. Andy Marshal (unpublished)
- 2015

**NightSafe Volunteer**  
 University of York
 

 York, UK


  - Student organisation taking care of student safety throughout the night in the City of York
- 2015

**Science and Outreach - York Institute for Tropical Ecosystems**  
 University of York
 

 York, UK

  - 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**  
 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