

# 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  
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2017

### PhD, University of Auckland

School of Environment

📍 Auckland, NZ

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

2016  
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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  
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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.

### 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  
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2021

### Engagement Specialist

Centre for e-Research

📍 Auckland, NZ

- Engaging with researchers providing extensive research support by setting up virtual machines, data storage, and analytical workflows for graduate students and research staff.
- 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

- 2024

**[Is the past recoverable from the data? Pseudoproxy modelling of uncertainties in palaeoecological data](#)**  
Holocene

📍 Auckland, NZ

  - Asena, Q., Perry, G.L., Wilmshurst, J.
- 2024

**[A Bibliometric Review and Topic Analysis of Climate Justice Literature: Mapping Trends, Voices, and the Way Forward](#)**  
Climate Risk Management

📍 Auckland, NZ

  - Parsons, M., Asena, Q., Johnson, D., Nalau, J.
  - [Code repository publicly available.](#)
- 2019

**[Guidelines for Reporting and Archiving 210Pb Sediment Chronologies to Improve Fidelity and Extend Data Lifecycle](#)**  
Quaternary Geochronology

📍 Auckland, NZ

  - Courtney-Mustaphi, C.J., Brahney, J., Aquino-Lopez, M.A., Goring, S., Orton, K., Noronha, A., Czaplewski, J., Asena, Q., Paton, S.
- 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

📍 Auckland, NZ

  - Heinemeyer, A., Burn, W.L., Asena, Q., Jones, A., Ashby, M.
- 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

📍 Auckland, NZ

  - Heinemeyer, A., Asena, Q., Burn, W.L., Jones, A.
  - Role: core preparation and microscopy - charcoal and spheroidal carbonaceous particles

### Courses

*I regularly attend courses and workshops to improve my software proficiency and scientific understanding including:*

#### Software courses:

- Python for geospatial analysis
- Google Earth Engine for spatial analysis
- Software Carpentry
- Research Bazaar

#### University Modules:

- Environmental Data Analysis
- Modelling of Environmental Systems

### Skills

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

- 2018 • **Population viability analyses in New Zealand: a review**  
New Zealand Journal of Ecology  
· Simpkins, C.E., Lee, F., Powers, B.F., Anderson, S., **Asena, Q.**, Brock, J.M.R., Perry, G.L.
- 2018 • **Assessing the links between resilience, disturbance and functional traits in paleoecological datasets**  
Past Global Changes Magazine, vol. 26(2), 87  
· Hamilton, R., Brussel, T., **Asena, Q.**, Bruel, R., Marcisz, K., Slowinski, M., Morris, J.



## PACKAGES, APPS AND RESOURCES

- 2023  
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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

### 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



## SELECTED WORKSHOPS AND CONFERENCES

- 2023 • **ESA**  
Ecological Society of America  Portland, OR  
· Speaker: [Modelling palaeoecological community data: a state-space approach](#)
- 2023 • **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

### Hobbies and Interests

*Keen musician improving my piano skills*

*Rock climber, if I'm not working I'm probably up a mountain. I teach rock climbing safety at university clubs.*

- 2022
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- AGU
- American Geophysical Union
- Chicago, IL
- Speaker on virtual ecological methods for assessing uncertainty in palaeoecological data using pseudoproxies
- 2022
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- 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
- 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

- Present
- |
- 2024
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- Neotoma Leadership Council
- Neotoma
- Virtual
- Early career representative on the Neotoma leadership council.
- 2016
- 
- Database Work for Literature Review
- 
- York, UK
- Literature review work for Assoc. prof. Andy Marshal (unpublished)

2015	<ul style="list-style-type: none"> <li>● <b>NightSafe Volunteer</b></li> </ul>	<div>University of York</div> <div>📍 York, UK</div>
	<ul style="list-style-type: none"> <li>· Student organisation taking care of student safety throughout the night in the City of York</li> </ul>	
2015	<ul style="list-style-type: none"> <li>● <b>Science and Outreach - York Institute for Tropical Ecosystems</b></li> </ul>	<div>University of York</div> <div>📍 York, UK</div>
	<ul style="list-style-type: none"> <li>· Developed short films and interviews overviewing the work done by the York Institute for Tropical Ecosystems (KITE)</li> <li>· <a href="#">Link to film</a></li> <li>· <a href="#">Link to short</a></li> </ul>	
2014	<ul style="list-style-type: none"> <li>● <b>York Students in Schools Volunteer</b></li> </ul>	<div>University of York</div> <div>📍 York, UK</div>
	<ul style="list-style-type: none"> <li>· Volunteering as an assistant in school teaching a range of sciences</li> </ul>	
2012	<ul style="list-style-type: none"> <li>● <b>Flood Defences - certified course</b></li> </ul>	<div>University of York</div> <div>📍 York, UK</div>
	<ul style="list-style-type: none"> <li>· Design a flood defence plan for the City of York</li> <li>· Team won first place</li> </ul>	
2012	<ul style="list-style-type: none"> <li>● <b>Environment Department Media Development</b></li> </ul>	<div>University of York</div> <div>📍 York, UK</div>
	<ul style="list-style-type: none"> <li>· Filming and editing a series of interviews of academics in the environment department for open-day presentations</li> </ul>	