

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

- PhD explored 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
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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
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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 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

🐦 [QuinnAsena](#)

🌐 github.com/QuinnAsena

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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

Professor George Perry

george.perry@auckland.ac.nz

2021	Data Analyst Auckland Council <div> <div></div> <div>Auckland, NZ</div> </div> <ul style="list-style-type: none"> Role: analyse citizen science bird count data and write a technical report.
2019	Graduate Teaching Assistant and Assistant Coordinator University of Auckland <div> <div></div> <div>Auckland, NZ</div> </div> <ul style="list-style-type: none"> 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 <div> <div></div> <div>Auckland, NZ</div> </div> <ul style="list-style-type: none"> GTA: Natural and Human Environmental Systems; Discovering Environmental Modelling; and, Environmental Science and Management
2017 2016	Research Assistant Stockholm Environment Institute <div> <div></div> <div>York, UK</div> </div> <ul style="list-style-type: none"> 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

Accepted	Is the past recoverable from the data? Pseudoproxy modelling of uncertainties in palaeoecological data Holocene <ul style="list-style-type: none"> Asena, Perry and Wilmshurst
2019	Guidelines for Reporting and Archiving 210Pb Sediment Chronologies to Improve Fidelity and Extend Data Lifecycle Quaternary Geochronology <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Heinemeyer et al.
2018	Population viability analyses in New Zealand: a review New Zealand Journal of Ecology <ul style="list-style-type: none"> Simpkins 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

- 2018
- **Assessing the links between resilience, disturbance and functional traits in paleoecological datasets**
Past Global Changes Magazine, vol. 26(2), 87
· Hamilton et al.

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

SELECTED WORKSHOPS AND CONFERENCES

- 2023
- **ESA**
Ecological Society of America  Portland, OR
· Speaker: [Modelling palaeoecological community data: a state-space approach](#)
 - **INQUA**
International Union For Quaternary Research  Rome, IT
· Lead Convenor: [Data science and paleoecology: current intersections and advances](#)
 - **ResBaz**
Research Bazaar  Auckland, NZ; Madison, WI
· Orgniser 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
 - **BES: Palaeo in R**
British Ecological Society  Virtual
· Speaker on virtual ecological methods to assessing uncertainty in palaeoecological data using pseudoproxies
 - **AGU**
American Geophysical Union  Chicago, IL
· Speaker on virtual ecological methods for assessing uncertainty in palaeoecological data using pseudoproxies

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*

- 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

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INQUA
 International Union For Quaternary Research

📍 Dublin, Ireland

- Speaker on pseudoproxy modelling for assessing statistical inferences
- 2019

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Durham
 Durham University

📍 Durham, UK

- Invited speaker on modelling resilience in ecosystems
- 2019

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Biological Heritage Science Challenge
 University of Canterbury

📍 Christchurch, NZ

- Speaker on resilience in ecosystems
- 2018

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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

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Te Punaha Matatini Biomaths
 University of Auckland

📍 Auckland, NZ

- Speaker
- 2018

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

📍 Utah, USA

- Speaker on modelling resilience in ecosystems
- 2018

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Paleodata Demo Derby Workshop
 University of Wisconsin

📍 Wisconsin, USA

- Participant
- 2017

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Biological Heritage Science Challenge
 University of Canterbury

📍 Christchurch, NZ

- Speaker

VOLUNTEERING AND OTHER EXPERIENCE

- 2016

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Database Work for Literature Review

📍 York, UK

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

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NightSafe Volunteer
 University of York

📍 York, UK

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

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