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 or Wisconsin-Madison — Madison, WI

- NSF grant, developing state-space modelling methods to analyse palaeoeological 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
QuinnAsena
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

Professor George Perry

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

Accepted **Is the past recoverable from the data? Pseudoproxy modelling of uncertainties in palaeoecological data**
Holocene
- Asena, Perry and Wilmshurst

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 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

PACKAGES, APPS AND RESOURCES

2023 | 2022

Authoring collaborative research projects in Quarto

Workshop

- Workshop resources for hosting collaborative research projects using Git andGitHub
- 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

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

- Orgniser and helper in ResBaz Aotearoa 2021
- Workshop lead on Quarto for Colaboration virtual session for ResBaz NZ 2022
- Workshop lead on Quarto for Colaboration 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

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

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