

# Brian S. Maitner

POSTDOCTORAL RESEARCHER

Department of Geography, Department of Environment and Sustainability, University at Buffalo, Buffalo, New York, USA

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## Research Interests

Biodiversity; global change; community assembly; coexistence; community phylogenetics; behavioral ecology; community ecology; tropical ecology; invasion biology; biogeography; niche conservatism; trait-based ecology; data science; geospatial analyses; ecoinformatics; R

## Professional Experience

### Postdoctoral Scholar

Buffalo, NY, USA

UNIVERSITY OF BUFFALO

2021-present

- Research focused on developing workflows to inform land managers in the Cape Floristic Region of South Africa of potential changes in vegetation (e.g. fires, droughts, invasive species, illegal land clearing).
- The workflow utilized remote sensing data, hierarchical Bayesian modeling to predict NDVI over time and detect deviations, and machine learning for classifying deviation from expectations into land change categories.

### Terrestrial sampling stratification designer

BIOSCAPE

2022-present

- As part of NASA's first biodiversity-focused program, BIOSCAPE (<https://www.bioscape.io/>), I led the selection of the terrestrial sites that would be used by BIOSCAPE.
- Sites were selected by analyzing and synthesizing multiple environmental variables to ensure sites were representative while also being compatible with project logistics and goals (e.g., near roads, publicly accessible, small slope, etc.)

### Postdoctoral Scholar

Storrs, CT, USA

UNIVERSITY OF CONNECTICUT

2020-2021

- Research focused on using unsupervised clustering algorithms to conduct novel delineations of global ecoregions on the basis of global plant distribution models, assessing their conservation status, and projecting future changes.

## Education

### Doctor of Philosophy: Ecology and Evolutionary Biology

Tucson, AZ, USA

UNIVERSITY OF ARIZONA

2014-2020

- Advisor: B.J. Enquist, PhD
- Thesis: Challenging current paradigms in community phylogenetics: Including source range phylogenetic structure and transforming phylogenetic branches to reflect trait evolution.

### Master of Science: Ecology and Evolutionary Biology

Houston, TX, USA

RICE UNIVERSITY

2009-2013

- Advisor: K. Hylander, PhD
- Thesis: Declines and increases in northern and southern plant populations after changes in the microclimate

### Bachelor of Science: Zoology

East Lansing, MI, USA

MICHIGAN STATE UNIVERSITY

2004-2006

- High Honors
- Concentrations in General Zoology and Ecology, Evolution, and Organismal Biology

### Bachelor of Science: Ecology

Grand Rapids, MI, USA

GRAND RAPIDS COMMUNITY COLLEGE

2001-2004

## Additional Education and Relevant Travel

### iDiv Summer School

GERMAN CENTRE FOR INTEGRATIVE BIODIVERSITY RESEARCH

2017

### Computation Ecology Summer School

UNIVERSITY OF MONTREAL

2016

## Biomedical Responsible Conduct of Research, Basic Course

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE

2012

## Species Distribution Modeling Training Course

AMERICAN MUSEUM OF NATURAL HISTORY

2011

## Studies in Natural History: Costa Rica

GRAND RAPIDS COMMUNITY COLLEGE

2003 & 2004

## Studies in Natural History: Canada

GRAND RAPIDS COMMUNITY COLLEGE

2003

## Funding

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### Robert May Prize

AWARDED BY: BRITISH ECOLOGICAL SOCIETY

2022

### Qualified for the UP Postgraduate Masters Research Bursary

AWARDED BY: UNIVERSITY OF PRETORIA

2018

### Awarded the 3rd year Undergraduate Mentorship Bursary

AWARDED BY: UNIVERSITY OF PRETORIA

2016

## Publications

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## Presentations

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### INVITED TALKS

#### What's [complexity] got to do with it?

TANYA STRYDOM

NetSci 2023

Jul., 2023

#### Making something out of nothing at all: Transfer learning for network prediction

TANYA STRYDOM

ML4MS mini-conference

Apr., 2022

#### Taking FAIR and open science to the field: The evolution of the PFTC field course

TANYA STRYDOM ALONGSIDE AUD H. HALBRITTER, 109 PFTC PARTICIPANTS

Living Norway Colloquium

Oct., 2020

### TALKS

#### Exploring the complexity of ecological networks using SVD entropy

TANYA STRYDOM, GIULIO V. DALLA RIVA AND TIMOTHÉE POISOT

11th Annual QCBS Symposium

Dec., 2020

### SHORT PRESENTATIONS AND POSTERS

#### Reconstructing food webs using transfer learning

TANYA STRYDOM, SALOMÉ BOUSKILA AND TIMOTHÉE POISOT

CSEE-SCEE Annual Meeting

Aug., 2021

#### Food web reconstruction using transfer learning

TANYA STRYDOM, SALOMÉ BOUSKILA AND TIMOTHÉE POISOT

12th Annual QCBS Symposium

Dec., 2021

### WORKSHOPS AND ORGANIZED SESSIONS

#### Space Oddity: Thinking About Ecological Networks Across Space

FRANCIS BANVILLE, GABRIEL DANSEREAU, TANYA STRYDOM

ESA/CSEE Meeting

Aug., 2022

#### Designing a collective prototype of future tropical and subtropical science

GRACIELLE HIGINO, MICKEY BOAKYE, NORMA FORERO, TANYA STRYDOM

ATBC Annual Meeting

Jul., 2021

## Referee Duties

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Acta Oecologica; American Journal of Botany; Annals of Botany; Biodiversity and Conservation; Biological Conservation; Biotropica; Diversity and Distributions; Ecography; Ecology; Ecological Informatics; Ecology Letters; Frontiers of Biogeography; Global Ecology and Biogeography; iScience; Journal of Biogeography; Journal of Ecology; Journal of Vegetation Science; Journal of the Arkansas Academy of Science; Methods in Ecology and Evolution; Nature Communications; New Phytologist; Philosophical Transactions of the Royal Society B; PLOS ONE; Science of the Total Environment; Scientific Reports.

## Fellowships and Grants

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### BIOS<sup>2</sup> Fellow

COMPUTATIONAL BIODIVERSITY SCIENCE AND SERVICES (BIOS<sup>2</sup>) TRAINING PROGRAM

2021 - present

### Living Data Internship

CANADIAN INSTITUTE OF ECOLOGY AND EVOLUTION, BIRDS CANADA

2022

- Data archiving for the Piping Plovers conservation project

### UiB Internship

UNIVERSITY OF BERGEN

2020

- Website development for the Plants Functional Courses website. This included content creation as well as some front end development

### 3rd year Undergraduate Mentorship Program

UNIVERSITY OF PRETORIA

2016

- Worked as an assistant within the M. Robertson lab. This included the sorting and identification of pitfall trap samples as well as extracting information from databases

## Awards

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## Teaching Experience

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## Service/Outreach

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## Community Engagement

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### SCIENCE COMMUNICATION

#### Cartoonist

FORTNIGHTLY CARTOONIST FOR ECOLOGY FOR THE MASSES BLOG

2020 - 2022

### POPULAR ARTICLES