



Tanya Strydom

POSTDOCTORAL RESEARCHER

Ecology and Evolutionary Biology, School of Biosciences, University of Sheffield

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💡 Research Profile

Food Webs; Method Development, Trait Ecology, Open and FAIR Science

💼 Professional Experience

Postdoctoral Researcher

UNIVERSITY OF SHEFFIELD

Sheffield, UK

2024 - Present

- Mentor: A.P. Beckerman, PhD
- Part of the Community And Structural Collapse During Mass Extinctions (CASCaDE) research team

🎓 Education

Doctor of Philosophy in Biological Sciences

UNIVERSITÉ DE MONTRÉAL

Montréal, Canada

2020-24

- Advisor: T. Poisot, PhD
- Thesis: Tools 'O the Times: Understanding the common properties of species interaction networks across space

Master of Science in Ecology and Biodiversity

Stockholm, Sweden

2018-20

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

Bachelor of Science (Honours) in Plant Sciences

Pretoria, South Africa

2017

UNIVERSITY OF PRETORIA

- Advisor: P.C. le Roux, PhD
- Thesis: Bush encroachment in South Africa's montane grasslands: the impact of *Leucosidea sericea* on microclimate and vegetation

Bachelor of Science in Ecology

Pretoria, South Africa

2014-16

ῳ Funding and Awards

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

* Indicates co-lead author

PUBLICATIONS

1. Banville, F., **Strydom, T.**, Blyth, P. S. A., Brimacombe, C., Catchen, M., Dansereau, G., Gravel, D., Higino, G., Malpas, T., Mayall, H., Norman, K., & Poisot, T. (2025). Deciphering probabilistic species interaction networks. *Ecology Letters*, 28(6). <https://doi.org/10.1111/ele.70161>
2. Higino, G. T., Anujan, K., Boakye, M., Degano, M. E., Forero-Muñoz, N.-R., & **Strydom, T.** (2025). Designing a collective prototype of future (sub)tropical science. *FACTS*, 10. <https://doi.org/https://doi.org/10.1139/facts-2024-0113>
3. Johnson, T. F., Simmons, B. I., Millard, J., **Strydom, T.**, Danet, A. H., Sweeny, A. R., & Evans, L. C. (2024). Pressure to publish introduces LLM risks. *Methods in Ecology and Evolution*, 15(10). <https://doi.org/10.1111/2041-210X.14397>
4. Christiansen, D. M., **Strydom, T.**, Greiser, C., McClory, R., Ehrlén, J., & Hylander, K. (2023). Effects of past and present microclimates on northern and southern plant species in a managed forest landscape. *Journal of Vegetation Science*. <https://doi.org/10.1111/jvs.13197>
5. Maitner, B. S., Halbritter, A. H., Telford, R. J., **Strydom, T.**, Chacón-Labella, J., Henderson, A. N., Lamanna, C., Sloat, L. L., Kerkhoff, A. J., Messier, J., Rasmussen, N. L., Pomati, F., Merz, E., Vandvik, V., & Enquist, B. J. (2023). Bootstrapping outperforms community-weighted approaches for estimating the shapes of phenotypic distributions. *Methods in Ecology and Evolution*. <https://doi.org/10.1111/2041-210X.14160>
6. **Strydom, T.**, Bouskila, S., Banville, F., Barros, C., Caron, D., Farrell, M. J., Fortin, M.-J., Hemming, V., Mercier, B., Pollock, L. J., Runghen, R., Dalla Riva, G. V., & Poisot, T. (2023). Graph embedding and transfer learning can help predict potential species interaction networks despite data limitations. *Methods in Ecology and Evolution*, 14(12). <https://doi.org/10.1111/2041-210X.14228>
7. **Strydom, T.**, & Poisot, T. (2023). SpatialBoundaries.jl: Edge detection using spatial wombling. *Ecography*. <https://doi.org/10.1111/ecog.06609>
8. Raath-Krüger, M. J., Schöb, C., McGeoch, M. A., Burger, D. A., **Strydom, T.**, & le Roux, P. C. (2022). Long-term spatially-replicated data show no cost to a benefactor species in a facilitative plant-plant interaction. *Oikos*. <https://doi.org/10.1111/oik.09617>
9. **Strydom*, T.**, Bouskila*, S., Banville, F., Barros, C., Caron, D., Farrell, M. J., Fortin, M.-J., Hemming, V., Mercier, B., Pollock, L. J., Runghen, R., Dalla Riva, G. V., & Poisot, T. (2022). Food web reconstruction through phylogenetic transfer of low-rank network representation. *Methods in Ecology and Evolution*. <https://doi.org/10.1111/2041-210X.13835>
10. Chacón-Labella, J., Boakye, M., Enquist, B. J., Farfan-Rios, W., Gya, R., Halbritter, A. H., Middleton, S. L., von Oppen, J., Pastor-Ploskonka, S., **Strydom, T.**, Vandvik, V., & Geange, S. R. (2021). From a crisis to an opportunity: Eight insights for doing science in the COVID-19 era and beyond. *Ecology and Evolution: Academic Practice in Ecology and Evolution*, 11(8), 3588–3596. <https://doi.org/10.1002/ece3.7026>
11. Geange*, S. R., von Oppen*, J., **Strydom***, T., Boakye, M., Gauthier, T.-L. J., Gya, R., Halbritter, A. H., Jessup, L. H., Middleton, S. L., Navarro, J., Pierfederici, M. E., Chacón-Labella, J., Cotner, S., Farfan-Rios, W., Maitner, B. S., Michaletz, S. T., Telford, R. J., Enquist, B. J., & Vandvik, V. (2021). Next-generation field courses: Integrating Open Science and online learning. *Ecology and Evolution: Academic Practice in Ecology and Evolution*, 11(8), 3577–3587. <https://doi.org/10.1002/ece3.7009>
12. **Strydom, T.**, Dalla Riva, G. V., & Poisot, T. (2021). SVD entropy reveals the high complexity of ecological networks. *Frontiers in Ecology and Evolution*, 9. <https://doi.org/10.3389/fevo.2021.623141>
13. **Strydom*, T.**, Catchen*, M. D., Banville, F., Caron, D., Dansereau, G., Desjardins-Proulx, P., Forero-Muñoz, N. R., Higino, G., Mercier, B., Gonzalez, A., Gravel, D., Pollock, L. J., & Poisot, T. (2021). A roadmap toward predicting species interaction networks (across space and time). *Philosophical Transactions of the Royal Society B*, 376(20210063). <https://doi.org/10.1098/rstb.2021.0063>

IN PREP

1. Karapunar, B., **Strydom, T.**, Beckermann, A. P., Ridgewell, A., Little, C., Pimiento, C., Dunne, J. A., Hull, P., Wignall, P., & Dunhill, A. (n.d.). *No global collapse of marine food webs across the permian-triassic mass extinction*.
2. **Strydom, T.**, Akomolafe, G., & le Roux, P. (n.d.). *Bush encroachment in South Africa's montane grasslands: The impact of Leucosidea sericea on microclimate and vegetation*.
3. **Strydom, T.**, Dunhill, A., Dunne, J. A., Poisot, T., & Beckerman, A. P. (n.d.). *Scaling from metawebs to realised webs*:

- A hierarchical approach to network ecology.*
4. **Strydom, T.**, Karapunar, B., Beckerman, A. P., & Dunhill, A. (n.d.). *Reconstructing deep-time food webs: Model assumptions drive paleoecological inference*.
 5. Trepel, J., Buitenwerf, R., Ferraro, K., Roux, E. le, Lundgren, E., Maitner, B. S., **Strydom, T.**, Svenning, J.-C., & Kerr, M. (2025). Herbivory is not harm: Re-evaluating introduced herbivores in conservation. *Submitted to Conservation Biology*.

ARCHIVED DATASETS

1. Halbritter, A. H., Vandvik, V., Cotner, S., Farfan-Rios, W., Maitner, B. S., Michaletz, S. T., Menor, I. O., Telford, R. J., Ccahuana, A., Cruz, R., Bravo, J. S., Andrade, P. E. S., Bustamante, L. L. V., Castorena, M., Chacon-Labella, J., Christiansen, C. T., Duran, S. M., Egelkraut, D. D., Gya, R., ... Enquist, B. J. (2024). Plant trait and vegetation data along a 1314 m elevation gradient with fire history in Puna grasslands, Perú. *Scientific Data*, 11(225). <https://doi.org/10.1038/s41597-024-02980-3>
2. Kattge, J., Boenisch, G., Diaz, S., Lavorel, S., Prentice, C., Leadley, P., Wirth, C., & the TRY Consortium. (2020). TRY plant trait database—enhanced coverage and open access. *Global Change Biology*, 26(1), 119–188. <https://doi.org/10.1111/gcb.14904>

Working Groups

Black Holes and Revelations: Identifying Priority Sampling Locations for Local Food Webs in Canada

PIs: G. DANSEREAU, F. BANVILLE, M. CATCHEN, AND T. STRYDOM

2022

Merging Statistical Theory and Analyses at the Interface of Microbial and ‘Macrobial’ Ecology

PIs: M. LIEBOLD, P. PERES-NETO, AND E. THEBAULT

2022

Canadian metaweb construction working group

PIs: T. POISOT AND L.J. POLLOCK

2021

Network prediction synthesis working group

PIs: T. POISOT AND L.J. POLLOCK

2020

Plant Functional Trait Course 5 in Peru

PIs: V. VANDVIK AND B.J. ENQUIST

2020

Fellowships and Internships

BIOS² Fellow

COMPUTATIONAL BIODIVERSITY SCIENCE AND SERVICES (BIOS²) TRAINING PROGRAM

2021-23

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

Presentations

WORKSHOPS AND ORGANISED SESSIONS

Space Oddity: Thinking About Ecological Networks Across Space

ESA/CSEE Meeting

FRANCIS BANVILLE, GABRIEL DANSEREAU, TANYA STRYDOM

Aug., 2022

Designing a collective prototype of future tropical and subtropical science

ATBC Annual Meeting

GRACIELLE HIGINO, MICKEY BOAKYE, NORMA FORERO, TANYA STRYDOM

Jul., 2021

INVITED TALKS

The Risks and Rewards of Large Language Models in (Open) Scientific Research

SORTEE

TANYA STRYDOM

Oct., 2025

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

NetSci 2023

TANYA STRYDOM

Jul., 2023

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

ML4MS mini-conference

TANYA STRYDOM

Apr., 2022

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

Living Norway Colloquium

TANYA STRYDOM ALONGSIDE AUD H. HALBRITTER, 109 PFTC PARTICIPANTS

Oct., 2020

TALKS

It's okay to be different: Understanding how and why network construction matters

4th CPEG Symposium

TANYA STRYDOM

July, 2025

Exploring the complexity of ecological networks using SVD entropy

11th Annual QCBS Symposium

TANYA STRYDOM, GIULIO V. DALLA RIVA AND TIMOTHÉE POISOT

Dec., 2020

SHORT PRESENTATIONS AND POSTERS

The Nuances of Food Webs: An Overview of Definitions, Scales, and Mechanisms

BES Annual Meeting

TANYA STRYDOM, JENNIFER DUNNE, TIMOTHÉE POISOT AND ANDREW P. BECKERMAN

Dec., 2024

Food web reconstruction using transfer learning

12th Annual QCBS Symposium

TANYA STRYDOM, SALOMÉ BOUSKILA AND TIMOTHÉE POISOT

Dec., 2021

Reconstructing food webs using transfer learning

CSEE-SCEE Annual Meeting

TANYA STRYDOM, SALOMÉ BOUSKILA AND TIMOTHÉE POISOT

Aug., 2021

Teaching

INVITED LECTURES

Species Interaction Networks: A Macro-level Overview

University of South Florida

COMMUNITY ECOLOGY

Mar., 2025

Community Engagement

REFEREE DUTIES

Nature Reviews Biodiversity (1); Methods in Ecology and Evolution (1); Ecology Letters (3); Functional Ecology (1); Diversity and Distributions (2); Journal of Animal Ecology (1); PLoS Computational Biology (1); Global Change Biology (1); PLoS One (1); Plant Ecology (2); Ecology (1); Ecology and Evolution (1); Journal of Open Source Software (1); Global Ecology and Biogeography (1); Proceedings B (1)

SCIENCE COMMUNICATION

Cartoonist

FORTNIGHTLY CARTOONIST FOR ECOLOGY FOR THE MASSES BLOG

2020 - 2022

Skype a Scientist

Q&A SESSIONS WITH SCHOOL GROUPS

2024 - Present

Letters to a PreScientist

PEN PAL PROGRAMME WITH HIGH SCHOOL STUDENTS

2025

POPULAR ARTICLES

1. von Oppen, J., Gya, R., Geange, S., **Strydom, T.**, Middleton, S., & Maitner, B. S. (2021). Next generation field courses: Enhancing ECR development through open science and online learning. In *Ecology for the Masses*.
2. Cotner, S., Enquist, B. J., Chacon, J., Maitner, B. S., Farfan-Rios, W., Michaletz, S., Garen, J., Gauthier, T.-L. J., Vandvik, V., Gya, R., Halbritter, A. H., Hošková, K., Pierfederici, M. E., Quinteros-Casaverde, N. L., Diaz, E. S., Jessup, L. H., **Strydom, T.**, & von Oppen, J. (2020). International scientists need better support during global emergencies. In *Times Higher Education*.