



Tanya Strydom

POSTDOCTORAL RESEARCHER

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

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Research Interests

computational ecology; functional traits; ecological networks; species interactions; FAIR and open science

Professional Experience

Postdoctoral Researcher

UNIVERSITY OF SHEFFIELD

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

Sheffield, UK

2024 - Present

Education

Doctor of Philosophy in Biological Sciences

UNIVERSITÉ DE MONTRÉAL

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

Montréal, Canada

2020-23

Master of Science in Ecology and Biodiversity

STOCKHOLMS UNIVERSITET

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

Stockholm, Sweden

2018-20

Bachelor of Science (Honours) in Plant Sciences

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

Pretoria, South Africa

2017

Bachelor of Science in Ecology

UNIVERSITY OF PRETORIA

Pretoria, South Africa

2014-16

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

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

Working Groups and International Collaboration

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

Publications

* Indicates co-lead author

* Winner of the 2022 Robert May Prize

PUBLICATIONS

- 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-Labela, 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>
- 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>
- Maitner, B. S., Halbritter, A. H., Telford, R. J., **Strydom, T.**, Chacón-Labela, 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/10.22541/au.162196147.76797968/v1>
- 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*. <https://doi.org/10.1111/2041-210X.14228>
- Strydom, T.**, & Poisot, T. (2023). SpatialBoundaries.jl: Edge detection using spatial wombling. *Ecography*. <https://doi.org/10.1111/ecog.06609>
- 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>
- 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/>

8. Chacón-Labela, 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>
9. 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-Labela, 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>
10. **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>
11. **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>
12. 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>

PREPRINTS

1. Higino, G. T., Anujan, K., Boakye, M., Degano, M. E., Forero-Muñoz, N.-R., & **Strydom, T.** (2023). Designing a collective prototype of future (sub)tropical science. *Preprint*. <https://doi.org/10.32942/X2VC86>

Presentations

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 ORGANISED 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

SCIENCE COMMUNICATION

Cartoonist

FORTNIGHTLY CARTOONIST FOR ECOLOGY FOR THE MASSES BLOG

2020 - 2022

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*.