



Tanya Strydom

PHD CANDIDATE

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Research Interests

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

Education

Doctor of Philosophy: Biological Sciences

Montréal, Canada

UNIVERSITÉ DE MONTRÉAL

2020 - Present

- Advisor: T. Poisot, PhD
- Thesis: Decoding Ecological Networks (in terms of the information from within)

Master of Science: Ecology and Biodiversity

Stockholm, Sweden

STOCKHOLMS UNIVERSITET

2018-20

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

Bachelor of Science (Honours): Plant Sciences

Pretoria, South Africa

UNIVERSITY OF PRETORIA

2017

- 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: Ecology

Pretoria, South Africa

UNIVERSITY OF PRETORIA

2014-16

Fellowships and Internships

BIOS² Fellow

COMPUTATIONAL BIODIVERSITY SCIENCE AND SERVICES (BIOS²) TRAINING PROGRAM

2021 - present

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

International Collaboration and Working Groups

Canadian metaweb construction working group

PIs: T. POISOT (UNIVERSITÉ DE MONTRÉAL) AND L.J. POLLOCK, (MCGILL UNIVERSITY)

2021

- Leader of one of the sub-projects focused on using machine learning for prediction

Network prediction synthesis working group

PIs: T. POISOT (UNIVERSITÉ DE MONTRÉAL) AND L.J. POLLOCK, (MCGILL UNIVERSITY)

2020

- Co-lead author of resulting publication

Plant Functional Trait Course 5 in Peru

PIs: V. VANDVIK (UNIVERSITY OF BERGEN) AND B.J. ENQUIST, (UNIVERSITY OF ARIZONA)

2020

- Plant functional responses to fire

PUBLICATIONS

- 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>
- Strydom*, T.**, Catchen*, M. D., Banville, F., Caron, D., Dansereau, G., Desjardins-Proulx, P., Forero-Muñoz, N. R., Higinio, 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>
- 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>
- 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>
- 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>
- 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

- 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. *Preprint*. <https://doi.org/10.1101/2022.10.17.512641>
- 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). Predicting metawebs: Transfer of graph embeddings can help alleviate spatial data deficiencies. *Preprint*. <https://doi.org/10.32942/osf.io/vyzgr>
- Strydom, T.**, & Poisot, T. (2022). SpatialBoundaries.jl: Edge detection using spatial wombling. *Preprint*. <https://doi.org/10.32942/osf.io/sjxd8>
- 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. (2021). On estimating the shape and dynamics of phenotypic distributions in ecology and evolution. *Preprint*. <https://doi.org/10.22541/au.162196147.76797968/v1>

Presentations

INVITED TALKS

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

Reconstructing food webs using transfer learning

TANYA STRYDOM, SALOMÉ BOUSKILA AND TIMOTHÉE POISOT

CSEE-SCEE Annual Meeting

Aug., 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 & Engagement

COMMUNICATION

Cartoonist

FORTNIGHTLY CARTOONIST FOR ECOLOGY FOR THE MASSES BLOG

2020 - present

POPULAR ARTICLES

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*.

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., Hořková, 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*.

Academic Service

Society for Open, Reliable, and Transparent Ecology and Evolutionary Biology

MEMBER

2021 - Present

Québec Centre for Biodiversity Sciences

STUDENT MEMBER

2020 - Present

Reviewed Journals

PLANT ECOLOGY, PLoS ONE

Funding and Awards

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