

Tanya Strydom

PHD STUDENT

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Research Interests

computational ecology; functional traits; ecological networks; machine learning; FAIR and open science

Education

Doctor of Philosophy: Biological Sciences

Montréal, Canada

UNIVERSITÉ DE MONTRÉAL

2020 - Present

- Advisor: T. Poisot, PhD
- Thesis: Machine learning in ecology

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
- Graduated *cum laude*

Bachelor of Science: Ecology

Pretoria, South Africa

UNIVERSITY OF PRETORIA

2014-16

Research Experience

Plant functional trait responses to elevation and fire

V. VANDVIK, PHD AND B.J. ENQUIST, PHD

2020

- Attended the 5th Plants Functional Traits Course in Peru co-hosted by the University of Bergen and Arizona University.
- Theory on plant functional traits and their relationships with broader ecological processes.
- Practical elements include: experimental design, data collection and curation, and report writing.

Plant vital rates along microclimate gradients.

K. HYLANDER, PHD

2019-20

- Masters degree research project.
- Focused on the variation of plant population vital rates along microclimate gradients and the role of historic climatic conditions.

Plant-pollinator interactions in different microsites

J. EHRLÉN, PHD AND A. TACK, PHD

2019

- A Masters level course research project.
- Independently worked on hypothesis formulation and experimental design.

Changes in plant functional traits at fine-scales

P.C. LE ROUX, PHD

2018

- Collecting and processing plant functional traits on sub-Antarctic Marion Island.
- Research focused on looking at changes in plant functional traits along microclimate gradients.

The impact of an encroaching species on vegetation and microclimate

P.C. LE ROUX, PHD

2017

- Honours degree research project.
- Research focused on the concepts of biotic interactions, ecosystem engineering and habitat modification.

Technical Skills

Statistical Analysis	generalized and linear mixed-effect models; multivariate analysis; Bayesian analysis; primarily using R
Spatial Analysis	spatial analysis in ecology; ArcGIS; Maxent; GBIF
Image Analysis	ImageJ; Adobe Photoshop
Phylogenetic Analysis	extracting and cleaning samples from GenBank; MEGA
Academic Writing	assessed at various levels; peer-reviewed articles; literature reviews; research proposals; reports; popular articles
Oral Communication	masters level course; presented in various settings
Peer Review	as an assistant (PLoS ONE, 2018); second-round reviewer (Plant Ecology, 2019)
Language Skills	English and Afrikaans as a native speaker; conversational in German; basic Swedish and Spanish

Written Work

PEER-REVIEWED

Kattge, J., Boenisch, G., Diaz, S., Lavorel, S., Prentice, C., Leadley, P., Wirth, C., & TRY Consortium. (2020). The TRY plant trait database - enhanced coverage and open access. *Global Change Biology*. <https://doi.org/10.1111/gcb.14904>

UNDER REVIEW

Chacón-Labelle♣, 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. (2020). From a crisis to an opportunity: Eight insights for doing science in the covid-19 era and beyond. *Accepted at Journal of Ecology*. <https://doi.org/10.22541/au.159569118.87473812>

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-Labelle, J., Cotner, S., Farfan-Rios, W., Maitner, B. S., Michaletz, S. T., Telford, R. J., Enquist, B. J., & Vandvik, V. (2020). Next-generation field courses: Integrating open science and online learning. *Accepted at Journal of Ecology*.

Raath-Krüger, M. J., Schöb, C., McGeoch, M. A., **Strydom, T.**, & le Roux, P. C. (2020). Long-term spatially-replicated data show no cost to a benefactor species in a facilitative plant-plant interaction. *Submitted*.

Strydom, T., & Poisot, T. (2020). SVD entropy reveals the high complexity of ecological networks. *Submitted*. <https://doi.org/10.32942/osf.io/q9v85>

POPULAR ARTICLES

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*. <https://tinyurl.com/y5ccw9nb>

♣ = should be considered equal lead

Talks

INVITED TALKS

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

Trondheim, Norway

LIVING NORWAY COLLOQUIUM 2020: TOWARDS OPENESS AND TRANSPARENCY IN APPLIED ECOLOGY

Oct. 13, 2020

- Presented as part of the education and open science workshop
- Presented alongside Aud H. Halbritter
- Link to slides

Internships

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

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