

# Tanya Strydom

PHD STUDENT

Département de sciences biologiques, Université de Montréal

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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

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

## Written Work

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### 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

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### 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

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### 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

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### 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