



# Tanya Strydom

PHD STUDENT

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## Research Interests

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

## Education

### Doctor of Philosophy: Biological Sciences

UNIVERSITÉ DE MONTRÉAL

Montréal, Canada

2020 - Present

- Advisor: T. Poisot, PhD
- Thesis: Common properties of species interaction networks across space

### Master of Science: Ecology and Biodiversity

STOCKHOLMS UNIVERSITET

Stockholm, Sweden

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

UNIVERSITY OF PRETORIA

Pretoria, South Africa

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

UNIVERSITY OF PRETORIA

Pretoria, South Africa

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.

### 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.

## Publications

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### PUBLICATIONS

- 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*, 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*, 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). *Global Change Biology*, 26(1), 119–188. <https://doi.org/10.1111/gcb.14904>

### PREPRINTS

- 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. *Submitted*. <https://doi.org/10.22541/au.162196147.76797968/v1>
- 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. S., & Poisot, T. (2021). A roadmap toward predicting species interaction networks (across space and time). *Under Revision*. <https://doi.org/10.32942/osf.io/eu7k3>

## Science Communication & Engagement

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### 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., 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*.

## Presentations

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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., 2020

- Presented as part of the education and open science workshop
- **Tanya Strydom** alongside Aud H. Halbritter, 109 PFTC Participants
- [Link to slides](#)

### TALKS

#### Exploring the complexity of ecological networks using SVD entropy

Québec, Canada

11TH ANNUAL QCBS SYMPOSIUM

Dec., 2020

- **Tanya Strydom**, Giulio V. Dalla Riva and Timothée Poisot
- [Link to slides](#)

## 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>Language Skills</b>	English and Afrikaans as a native speaker; conversational in German

## 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