

## PhD opportunity in aquatic environmental DNA metabarcoding: 2026-2028

### Stellenbosch University

Are you interested in marine conservation using cutting-edge technology? Then see below...

#### About the project

A PhD position is available in the lab of Prof. Sophie von der Heyden lab at Stellenbosch University, one of Africa's leading marine research groups specializing in the use of molecular tools to understand patterns and processes driving southern Africa's rich marine biodiversity. **This PhD project will use a combination of eDNA metabarcoding across the Tree of Life and Species Distribution Models to examine the connectivity of Marine Protected Areas along coastal South Africa and infer potential distribution changes under future climate change scenarios.**

Recent publications on eDNA metabarcoding from our lab:

1. von der Heyden S. 'It's not much, but it's honest work': the status of eDNA analyses of fish biodiversity in southern Africa. (2025) *Journal of Fish Biology*, in press
2. Courtaillac K-L, Landschoff J, von der Heyden S. (2025) Of biogeography, fishes and kelp: environmental DNA metabarcoding the Great African Seaforest. *Diversity and Distributions*, 31: e70045
3. Rossouw El, von der Heyden S, Peer N. (2025) Aquatic eDNA outperforms sedimentary eDNA for the detection of estuarine fish communities in sub-tropical coastal vegetated ecosystems. *Journal of Fish Biology*, 107: 520-534
4. Courtaillac K-L, Landschoff J, Hull K, von der Heyden S. (2024) The effect of spatio-temporal sampling and biological replication on the detection of kelp forest fish communities using eDNA metabarcoding. *Environmental DNA*, 6: e70023
5. Rossouw El, Landschoff L, Ndhlovu A, Neef G, Miya M, Courtaillac K-L, Brokensha R, von der Heyden S. (2024) Detecting kelp-forest associated metazoan biodiversity with eDNA metabarcoding. *npjBiodiversity*, 3: 4
6. von der Heyden S, Neef G, Grevesse T, Cwecwe Y, Sado T, Miya M, Mosie I, Creer S, Skelton, von Brandis R. (2023) Environmental DNA biomonitoring in biodiversity hotspots: a case study of fishes of the Okavango Delta. *Environmental DNA*, 5: 1720 – 1731
7. von der Heyden S. (2023) Environmental DNA surveys of African biodiversity: state of knowledge, challenges and opportunities. *Environmental DNA*, 5: 12-17

#### About the lab

We are a dynamic and diverse lab, with a strong emphasis on research excellence as well as student training and support. Our work spans evolutionary and molecular ecology, ecological genomics, marine conservation and restoration and the impact of climate and anthropogenic pressures on marine systems. To do this, we utilise a wide range of tools including genomics and environmental DNA metabarcoding, with our overarching goal of promoting the integration of molecular tools into conservation and sustainable utilization of southern African marine species and resources. You can find out more about the von der Heyden lab and our research: [www.vonderheydenlab.com](http://www.vonderheydenlab.com) or via FB [www.facebook.com/vonderheydenlab](https://www.facebook.com/vonderheydenlab).

#### About You

Applicants for the positions will hard-working, enthusiastic and independently motivated students and able to fit into a fun and diverse lab. You will need an average of at least 65% for your MSc degree, be physically fit for fieldwork and hold a valid driver's license. Ideally you would have some experience in molecular methodologies (even basic applications such as DNA extractions, PCR and sequencing are a bonus), have had some exposure to bioinformatics and have a background in ecological genomics / marine ecology and a good understanding of southern African marine biodiversity. We provide

training in all analytical methodology and this is a great opportunity for students who wish to gain more exposure in genomics, bioinformatics and their application to conservation.

### **About Stellenbosch University**

Stellenbosch University is set in the beautiful town of Stellenbosch, close to Cape Town and the southern tip of Africa. The university ranks in the top 300 universities globally, including for Biological Sciences and offers strong support for postgraduate students for training and learning opportunities. The town is lively and there are excellent opportunities for outdoor activities.

Note that you will need to apply independently to the current Stellenbosch University Postgraduate funding call (opening Sept/October 2025), or other funding opportunities you wish to pursue. Full support for the application process will be provided.

**Direct all enquiries to Prof Sophie von der Heyden, [svdh@sun.ac.za](mailto:svdh@sun.ac.za). For applications to be considered, include an academic transcript, CV and contact details for two academic referees. Closing date for applications is the 15<sup>th</sup> September 2026. Start date early 2026.**