







PhD opportunity for 2026

Applications are invited for a full-time PhD position from January 2026 to December 2028. We are seeking an enthusiastic individual to join our project focused on mangrove trophic dynamics and biodiversity-ecosystem function in South Africa. This collaborative research programme is jointly offered by the University of KwaZulu-Natal (UKZN), and the University of Cape Town (UCT), in collaboration with the Chinese University of Hong Kong and the University of Florence, Italy. This research aims to investigate the complex food web interactions within South African mangroves, using diverse methodologies to identify key drivers and factors influencing resilience.

Background: Mangroves have been highlighted as one of the most important ecosystems that contribute to both human and environmental well-being. They are championed as naturebased mitigations to climate change, offering coastal protection, productive nursery grounds and carbon sequestration services. Mangroves make up a vital proportion of coastal ecosystems along the South African coast, which is close to their southernmost geographical limit. At present, very few studies exist in South Africa that characterise and disentangle the food web, and therefore the resilience of mangrove ecosystems. The dearth of information on the trophic ecology, empirical food web and functional resilience of mangroves in South Africa leaves a significant gap in our understanding of this critical ecosystem. This is particularly alarming when considering that knowledge on the structure and functioning of food webs should form the basis for full comprehension and management of ecosystems. Therefore, we aim to establish a baseline understanding of the spatial and temporal dynamics of trophic interactions within South Africa's mangrove ecosystems, the role of individual species within the context of the ecosystem, and ecosystem level functioning of three different mangrove systems in the Eastern Cape and KwaZulu-Natal in South Africa. The increasing recognition of mangroves as crucial nature-based solutions to anthropogenic change further underscores the significance of this research.

The PhD candidate will focus on quantitative trophic dynamics and mangrove ecosystem resilience, and be registered under the supervision of **Prof. Ursula Scharler** at the **University of KwaZulu-Natal (UKZN), Durban**. The successful candidate will work in close collaboration with the team in the Vorsatz Anthropogenic Coastal Changes and Ecology of Larvae (ACCEL) lab at UCT for the ecological component of the study, and with the team at UKZN for the ecosystem modelling component of the study.

Eligibility:

- Applicants should have a strong academic background in statistical modelling, ecological modelling, environmental science, marine biology, or a related field.
- Applicants must possess an appropriate MSc degree with evidence of excellent academic performance.
- Existing publications in a peer-reviewed journal are highly desirable.
- This position requires a keen interest in mangroves and estuarine systems, strong analytical, writing and communication skills.
- You have a high degree of motivation and are happy to collaborate in a team.

The project is already funded for running costs via the South African NRF-MCR programme. Shortlisted applicants will be required to apply for bursaries, with proposals developed in collaboration with the supervisor, unless you are self-funded. The deadline for NRF applications is 4 July 2025. For more information on the NRF funding call, see <u>here</u>. In addition, UKZN exempts their PhD students from tuition fees for the first three years of fulltime registration.

Applicants should send a CV (with contact details of two referees), short motivation letter (one page), and academic record to scharler@ukzn.ac.za (subject 'your surname' and 'mangrove food web PhD'. The deadline for this application is 16 June 2025.