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Two PhD studentships are available to investigate the environmental impacts, reproduction and life history patterns of a non-indigenous *Diopatra* species in the Knysna Estuary

It was recently established that the *Diopatra* species (moonshine worm) collected as bait in the Knysna Estuary is not indigenous to South Africa. However, its large-scale removal is hampered by its size in conjunction with the protected status of the estuary. The worms live in tubes that are up to 1m deep, so removal by digging is impractical and will cause irreparable damage to the estuary. Thus, we need a full understanding of the actual impact that the worm might be having within the estuary, before plans for large-scale removal of the worm are implemented. Such information can provide insight into whether the worm is 'benign', and whether its removal may be more harmful than leaving it be. On the other hand, understanding its reproductive and life history patterns can identify periods when the worms might be most susceptible to management procedures.

The first project will investigate the ecological and trophic roles of *Diopatra aciculata* in Knysna Estuary, measuring its impact as an ecological engineer, interactions with potential prey and predators *in situ*, and impacts as a consumer and resource. The second project will investigate the reproductive characters and cycles of *D. aciculata* by assessing population dynamics, oocyte sizes, and spawning periods, investigate the presence of source and sink sub-populations, and connectivity between populations in South Africa and elsewhere, and census density throughout the estuary over the long term.

The successful candidate will be supervised by Prof. Carol Simon, head of the Simon Polychaete Research Group based in the Department of Botany and Zoology at Stellenbosch University. Depending on the project, the candidate will be co-supervised by, or work in collaboration with, Prof. Conrad Matthee (Stellenbosch University), Prof. Nicole Richoux (Rhodes University), Dr Louw Claassens (Knysna Basin Project) and Mr Kyle Smith (SANParks, Garden Route National Park).

Candidates must have an appropriate MSc degree with excellent records; experience in molecular techniques and statistical data analyses are to your advantage but not prerequisites.

The scholarships are each valued at R120 000 pa, for 3 years. Ideally, the positions would commence before April 2019, but commencement dates are negotiable.

To apply, please send, in a single pdf document, a one-page motivation letter and CV (including your academic record, names and contact details of two referees) to csimon@sun.ac.za by 31 January 2019. All enquiries may also be directed to Prof. Simon.

For information on research conducted by the group, go to <http://www.thesimonpolychaetelab.com/>, <http://academic.sun.ac.za/botzoo/csimon/index.htm>, <http://www.knysnabasinproject.co.za/projects/knysna-bait-project> or follow us @SimonPolyLabSA