



SAIAB
South African Institute
for Aquatic Biodiversity

Private Bag 1015
Grahamstown 6140
South Africa
Tel: +27 (0)46 603 5842
Fax: +27 (0)46 622 2403
Email: a.bernard@saiab.ac.za

3 September 2019

Funding available for 1 x Post-doctoral researcher, 1 x PhD and 2 x MSc students with an interest in the advancement of non-invasive molecular sampling techniques for marine ecology

Post-graduate research projects are available at the NRF-SAIAB within the Genetics and Remote Imagery research platforms for suitable candidates to investigate the potential of environmental DNA (eDNA) to collect population and community level data for subtidal fishes occurring on photic and mesophotic reefs and other non-invasive *in situ* sampling techniques to collect genetic material from reef fishes for individual, community or population level molecular analysis.

The projects are fully funded through the NRF Marine and Coastal Research Grants programme and the students will join the team working on population genetics, reef ecology and conservation at the NRF-SAIAB.

The projects will aim to address research questions under the following topics:

PhD (3 years funding): Development of methods and optimal protocols to collect eDNA for analysis of spatial and temporal patterns in reef fish community structure, and a comparative assessment with baited remote underwater stereo-video systems (stereo-BRUVs).

MSc 1 (2 years funding): Sensitivity of eDNA to detect transient species and the dispersal and persistence of eDNA on subtidal reefs.

MSc 2 (2 years funding): Development of non-invasive sampling techniques to collect genetic material from fishes and the application of microsatellites to enable individual identification and population level studies

Post-Doctorate (2 years funding): The nature of the post-doctoral position will be flexible within the context of the main project. The post-doctorate fellowship will involve independent research, collaboration with project scientists and co-supervision of the MSc and PhD students.

Minimum requirements:

- **MSc:** Completed undergraduate and BSc Honour degrees with relevant experience in marine and/or molecular biology.
- **PhD:** Completed MSc with experience in molecular biology, preferably, but not limited to the marine environment; Past research published in ISI rated peer reviewed journals.



SAIAB
South African Institute
for Aquatic Biodiversity

Private Bag 1015
Grahamstown 6140
South Africa
Tel: +27 (0)46 603 5842
Fax: +27 (0)46 622 2403
Email: a.bernard@saiab.ac.za

- **Post-Doc:** Completed PhD in molecular biology/ecology or a related field with experience in research and laboratory techniques for the collection, processing and analysis of eDNA and microsatellites; Strong publication record for level and experience.
- The selected students, especially at the PhD and post-Doctorate levels, will have a background in molecular biology and ecology with strong analytical skills.
- The students will also need to demonstrate competency in planning and conducting fieldwork off small research vessels.
- The molecular techniques and video processing will require that the students have good attention to detail.
- The student must have a strong academic record (ideally with distinctions in recently completed degrees), be focussed, hardworking and willing to work as a part of a larger team.

The projects are open to South African citizens that meet the minimum criteria. If no suitable South African applications are received, international students will be considered.

The selected students will be based in Grahamstown at the NRF-SAIAB, registered through Rhodes University, for the full duration of their project.

If you are interested in applying please submit (1) a cover letter, detailing your relevant experience and research interests, (2) your latest academic transcript, (3) CV, (4) a copy of your ID, (5) a copy of a research output (thesis or publication) where you are the lead or co-author, (6) contact details of two referees, one of whom must be your most recent supervisor/mentor to Dr Gwynneth Matcher (g.matcher@saiab.ac.za), Dr Gavin Gouws (g.gouws@saiab.ac.za) and Dr Anthony Bernard (a.bernard@saiab.ac.za). Applications open immediately and will close once suitable students/postdocs have been identified. The project will start in January 2020.