

FITZPATRICK INSTITUTE OF AFRICAN ORNITHOLOGY



Study opportunity: MSc/PhD research at the FitzPatrick Institute of African Ornithology, Department of Biological Sciences, University of Cape Town



Influence of ecosystem variability on demography and reproductive performance of two species of *Eudyptes* penguins at sub-Antarctic Marion Island

The populations of many seabird species have undergone large decreases in recent years and these have often been linked to variability in and reduced availability of their prey resources, which have resulted from either large-scale environmental changes or fishing.

Seabird species have also been shown to be potentially good monitors of their environments and can be particularly useful in understanding change in ecosystems where lower trophic levels are not well monitored. The seas around the Prince Edward Islands (PEIs, including Marion and Prince Edward islands) in the southwest Indian Ocean are one such ecosystem. Since the mid-1990s, monitoring of penguins at Marion Island has formed part of South Africa's contribution to the ecosystem monitoring programme of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR).

This project will examine long-term data series of population size, breeding success and phenology, diet and body condition for two species of *Eudyptes* penguins that breed at Marion Island, Macaroni *E. chrysolophus* and Southern Rockhopper Penguins *E. chrysocome*, in an attempt to better understand factors that have driven recent large population decreases of these species. The project also will provide insights into the factors that influence the structure and functioning of the PEI ecosystem through comparison with environmental/climatic (e.g. ENSO, and frontal positions, wind strength, sea surface temperature, primary production) and ecosystem (e.g. trends in other predator populations and fish harvests) indicators. In so doing, it will guide attempts to mitigate adverse consequences for biodiversity conservation and ecosystem functioning of present ongoing environmental change.

The project is offered as an MSc with scope to be upgraded to a PhD depending on the interests and progress of the successful candidate. Under exceptional circumstances, we might also consider applications from candidates already holding an MSc who would like to undertake the project for a PhD.

Candidates should have an appropriate BSc Honours/MSc degree with excellent records. Experience in statistical data analysis and writing skills is essential. Preference will be given to South African applicants, especially those from disadvantaged backgrounds. The successful candidate will form part of an established and supportive research team.

The value of the scholarship is R95 000 per year for up to two years for an MSc or R120 000 per year for up to three years for a PhD. Renewal each year will be contingent on satisfactory academic progress. Adequate project running costs are available.

To apply, please send a CV (including your academic record and the names and contact details of two referees) and a short motivation letter to Hilary Buchanan (hilary.buchanan@uct.ac.za) (subject: [your surname] Marion penguin MSc/PhD) by **31 January 2019**. Informal enquires can be directed to Dr Azwianewi Makhado (amakhado@environment.gov.za) or Prof. Peter Ryan (pryan31@gmail.com). For more information on the FitzPatrick Institute visit www.fitzpatrick.uct.ac.za.