

# CAREER OPPORTUNITIES

## **National Research Foundation – South African Institute for Aquatic Biodiversity**

### **ABOUT US**

The South African Institute for Aquatic Biodiversity (NRF-SAIAB) is a national research facility supported by the National Research Foundation (NRF). We study the full range of aquatic environments, from deep ocean waters to inland freshwater systems.

Our research focuses on ecology and conservation, exploring how biodiversity at the genetic and species levels connects with the environment. The NRF-SAIAB also contributes to South Africa's *Operation Phakisa* programs, which aim to grow the country's Biodiversity Economy and Blue Economy.

Strong support from the Department of Science, Technology and Innovation and the NRF has enabled NRF-SAIAB to develop advanced research platforms that allow us to work in a wide range of environments and made us a leader in aquatic biodiversity research.

'All our work supports High Education in training and development of the next generation of aquatic scientists and environmental managers



# Aquatic Genomics Research Platform



## WHAT IT IS AND WHY IT IS IMPORTANT

The Aquatic Genomics Research Platform is an open-access facility that supports DNA and genomics research related to aquatic life.

Researchers use this platform for various projects, including:

- Identifying new aquatic species through DNA barcoding
- Studying the microbiomes of aquatic organisms
- Exploring population genetics
- Sequencing whole genomes

The data generated from this research supports many areas, such as ecosystem and fisheries management, aquaculture, and the search for new antimicrobial and antiviral compounds.

The laboratory is fully equipped for a range of DNA work—from extraction to Sanger and Next-Generation Sequencing. Platform staff provide hands-on technical support and training to those who use the equipment. The platform manager enables users with little to no laboratory experience to learn essential skills for their studies or future careers in molecular work. The platform has 18 workstations available for users.

## QUALIFICATIONS

**At school level, the following are recommended:**

- English
- Mathematics
- Natural Science

Once at university, at undergraduate level, enrol for a:

**Bachelor of Science (BSc), majoring in:**

- Microbiology, genetics or Genomics (ideal)
- OR any major which has a genetics component built into it

**Postgraduate studies:**

- BSc Honours (one year), (any biological sciences degree with a genomics/genetics component)
- Master of Science (MSc) (two years), (any biological sciences degree with a genomics/genetics component)
- Optional: Doctor of Philosophy (PhD) (three years)

## CAREER PATHS

Depending on your skills and education, you could become a:

**Primary Roles**

- Researcher
- Technician
- Scientist in an industry setting (e.g. Biotechnologist)

**Other Career Options**

The fundamental concepts in genomics and genetics are very similar regardless of the field of research. These fundamentals can rapidly be build upon to diverge in to any genomics industry ranging from medical through to environmental. Many students who have used genomics/genetics during their studies have gone on to work as:

- Environmental scientists
- University lecturers
- Clinical researchers
- Instrument technicians or scientists in commercial laboratories (in the food industry, forensics, pathology, medical industries, academic laboratories, etc.)
- Environmental consultants
- Postdoctoral fellows (researchers)





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South African Institute for  
Aquatic Biodiversity

**SOUTH AFRICAN INSTITUTE FOR AQUATIC BIODIVERSITY**

Somerset Street, Private Bag 1015,  
Makhanda, 6140, Tel: 046 603 5800  
E-mail: [saiab@saiab.ac.za](mailto:saiab@saiab.ac.za), [www.saiab.ac.za](http://www.saiab.ac.za)