

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

Collections Facility Research Platform

WHAT IT IS AND WHY IT MATTERS

The SAIAB Collections Facility is a cornerstone of fish and aquatic biodiversity research in Africa. It plays a crucial role in species conservation, taxonomy (scientific classification), digital archiving, and education. Researchers around the world use it to study and help protect Africa's rich aquatic life for future generations.

WHAT THE SAIAB COLLECTIONS FACILITY DOES

1. Preserves and Organises Specimens

- Maintains a large collection of preserved freshwater and marine fish from Africa and beyond.
- Uses methods like fluid preservation (ethanol and formalin), skeletal preparation, and tissue freezing for long-term storage.
- Organises specimens systematically making them easy to access for research.

2. Supports Research and Scientific Study

- Provides specimens for taxonomy (identifying and classifying species) and studying how they evolved.
- Assists with DNA studies and molecular research for species evolutionary history, identification and genetic research.
- Documents the distribution of species over time to support ecological and conservation research.

3. Biodiversity and Conservation

- Maintains an extensive biorepository (a bank of genetic material) for studying and protecting fish species.
- Helps assess species for the IUCN (International Union for Conservation of Nature) Red List and conservation planning.
- Monitors invasive species and climate change effects on fish populations.

4. Digital Archiving and Data Sharing

- Digitizes specimen data and shares it with global biodiversity platforms like FishBase, GBIF (Global Biodiversity Information Facility),

and GenBank.

- Uses photographic imaging, microscopy and CT scanning techniques to create detailed digital records.

5. Fieldwork and Specimen Collection

- Conducts field surveys to explore African freshwater and marine environments.
- Collects and documents new species and ecological data to extend scientific knowledge.
- Works with international partners on biodiversity projects.

6. Training and Skills Development

- Provides training programs for students, researchers and conservationists in fish collection, species identification, and biodiversity management.
- Supports postgraduate research in ichthyology, marine biology and aquatic sciences.
- Mentors students and researchers across Africa.

7. Public Education

- Runs outreach programs to raise awareness about fish and aquatic life.
- Works with museums to create educational exhibits.
- Involves the public in citizen science projects about fish conservation.

8. Policy and Advice

- Provides scientific information to help governments, NGOs and fisheries management.
- Contributes to environmental policies that protect aquatic biodiversity.
- Promotes sustainable fishing and marine conservation practices.

CAREERS IN AQUATIC BIODIVERSITY

1. Ichthyologist

Responsibilities: Studies fish species, behaviour, and habitats; conducts field research and specimen analysis.

Knowledge and Skills: Fish taxonomy, ecology, field sampling techniques, data analysis (R, Python, GIS), DNA techniques, scientific



Collections Facility Research Platform

writing and publishing.

Education: Bachelor's (minimum) in Marine Biology, Fisheries Science or related fields; Master's or PhD in Ichthyology, Zoology, Fisheries Science preferred.

Experience: Field and laboratory work; research publications are a plus.

2. Collection Manager

Responsibilities: Manages the fish specimen collections. May do some personal research.

Knowledge and Skills: Specimen preservation and care, database use, regulations, pest control, storage maintenance.

Education: Bachelor's (minimum) in Museum Studies, Biology, Zoology or Fisheries Science ; Master's in Ichthyology, Biodiversity Management preferred.

Experience: Previous work in museum or collection handling and cataloguing.

3. Curator (Ichthyology/Natural History)

Responsibilities: Oversees ichthyology collections and conducts related research.

Skills: Fish systematics, evolution and conservation; writing grants and fundraising; public outreach; science writing.

Education: Master's (minimum) in Ichthyology, Zoology, Museum Studies; PhD in Ichthyology, Evolutionary Biology or Natural History preferred.

Experience: Research, managing collections and exhibits, scientific publishing.

4. Research Scientist (Fish Biodiversity & Taxonomy)

Responsibilities: Studies fish species, their classification and conservation.

Skills: Species classification, genetics, mapping (GIS) and ecological modelling; population genetics, data analysis; grant writing, developing proposals.

Education: Master's (minimum) in Marine Biology, Zoology or Environmental Science; PhD in Fish Systematics, Evolutionary Biology or Ecology preferred.

Experience: Field/lab research with peer-reviewed, publications.

5. Conservation Biologist (Fisheries and Aquatic Ecosystems)

Responsibilities: Researches fish populations and develops conservation plans.

Skills: Fisheries science, monitoring ecology, habitat restoration, mapping (GIS), remote sensing, species distribution.

Education: Bachelor's (minimum) in environmental science, fisheries science, or biology; Master's or PhD. in conservation biology, aquatic

ecology preferred.

Experience: Conservation policy, field studies, work with NGOs/ government.

6. Educator (Aquatic Life and Conservation)

Responsibilities: Creates educational programs about fish and conservation for museum visitors.

Skills: Teaching, science communication, public speaking and interactive teaching, program development for different audiences, citizen science.

Education: Bachelor's (minimum) in Education, Biology or Science Communication; Master's in Museum Education or Science Communication preferred.

Experience: Public outreach, environmental education.

7. Collection Assistant (Ichthyology)

Responsibilities: Prepares and maintains fish specimens for research and display.

Skills: Various preparation and preservation methods, anatomy, dissection, photography and scientific imaging.

Education: Associate's or Bachelor's in Biology, Zoology or Museum Studies; training in specimen prep helpful.

Experience: Hands-on work with biological collections.

8. Database Manager (Biodiversity Informatics and Collections)

Responsibilities: Manages digital records and links them to global databases.

Skills: Database systems (SQL, Specify, Arctos), programming and scripting, metadata standards, bioinformatics.

Education: Bachelor's (minimum) in Computer Science, Bioinformatics, Library Science; Master's in Data Science, Biodiversity Informatics, or Natural Science collection studies preferred.

Experience: Working with biodiversity databases and digital archiving tools, GIS.

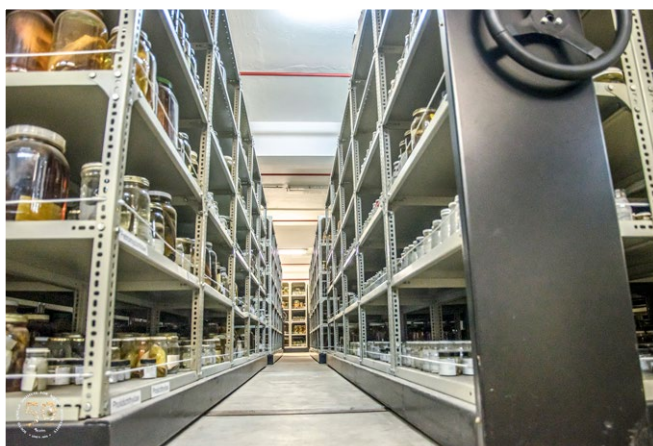
9. Field Technician (Aquatic Surveys and Collection)

Responsibilities: Supports fieldwork, collects specimens, assesses habitats, and records data.

Skills: Various sampling techniques, water quality monitoring; GPS, GIS mapping; handling specimens, collecting field data.

Education: Bachelor's (minimum) in Fisheries Science, Marine Biology, Environmental Science; field certifications in aquatic survey methods helpful.

Experience: Fieldwork, species identification and specimen handling.





NRF
National Research
Foundation

SAIAB

South African Institute
for Aquatic Biodiversity



@NRF_SAIAB



@NRFSAIAB



@NRF_SAIAB



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, www.saiab.ac.za