



Postdoctoral Fellowship in Aquaculture Genomics

The Molecular Breeding & Biodiversity (MBB) Research Group in the Department of Genetics at Stellenbosch University is seeking a highly motivated, dynamic, and goal orientated early career researcher to fill the position of Postdoctoral Fellow in Aquaculture Genomics in the 2025 academic year.

Scope of Research

The MBB Research Group, has a primary disciplinary research focus in Population- and Quantitative Genetics, with an increasing Systems Genetics and Genomics experimental approach to understanding the micro-evolutionary dynamics of animal populations and the genetic architecture of complex traits. The group conducts fundamental research, within an applied *milieu* of animal production, conservation management and sustainable development of the bio- and oceans economy of South Africa. The MBB is currently South Africa's leading research group for aquaculture breeding, genetics and genomics. In particular, the group focuses on indigenous marine animals that are established or emerging aquaculture species, as such seminal works on the South African abalone (*Haliotis midae*), the collector sea urchin (*Tripneustes gratilla*) and dusky kob (*Argyrosomus japonicus*) have already been published by the group. On going projects include genome sequencing, QTL mapping and candidate gene characterisation for growth traits in South African yellowtail (*Seriola lalandi*); structural genomics and synteny mapping and comparative transcriptomics and methylomics of different organs/tissues and associations with growth phenotypes in dusky kob; functional and evolutionary genomics of heat stress tolerance in South African abalone (*Haliotis midae*); and sequencing and annotation of the collector sea urchin (*Tripneustes gratilla*) genome.

Duties

The successful candidate will be expected to work closely with the Principal Investigator and Group Leader (Prof. Clint Rhode) with primary focus on the comparative and functional genomics of abalone and heat stress tolerance, but may also be expected to work on projects for other species. Core duties will include:

- i. Planning, execution and oversight of research projects;
- ii. Co-supervision of postgraduate students (Stellenbosch University gives formal recognition to postdoctoral fellows as co-supervisors on MSc- and PhD studies);
- iii. Drafting of manuscripts, project proposals, and reports;
- iv. Occasional assistance with undergraduate teaching.

Requirements and Qualifications

The ideal candidate will meet the following requirements:

- i. Hold a recognised PhD (NQF 10) in Genetics, Genomics, Bioinformatics or a relevant discipline (with appropriate research and technical skills), and be within their first five years post-doctoral graduation.
- ii. Have demonstrable skills in:
 - a. Biological sample collection, preservation and curation;
 - b. Molecular genetics and genomics laboratory operations (e.g. DNA and RNA extraction, PCR and electrophoresis);
 - c. Modern scientific data collection, -curation and -management;
 - d. Population-, quantitative- and/or statistical genetic data analysis;
 - e. Bioinformatic analysis (specifically working with high throughput sequencing- and genotypic data);
 - f. Excellent communication in English (written and verbal);
 - g. Ability to function in a multicultural and multilingual environment, with interpersonal skills;
 - h. Ability to work well independently and as part of a team, and take initiative and demonstrate leadership potential.
- iii. Have a valid South African driver's license.

Recommendations:

1. Published peer reviewed research articles from PhD studies or other fellowship tenures in a relevant disciplinary journal;
2. Have experience in student supervision, at least at BScHons level;
3. Be able to travel for field trips and sampling excursions; and
4. Have experience with animal handling and biopsy taking.

Remuneration and Tenure:

A National Research Foundation (NRF) grant-holder fellowship stipend is available for this position for a tenure of two years, 2025 and 2026 (with reinstatement in the second-year contingent on performance in the first year). However, candidates with freestanding grants and project proposals within the scope of the MBB's research mandate are also welcome to apply.

Application and Enquiries:

Interested candidates are invited to submit a motivation letter and comprehensive *curriculum vitae*, including contact details of at least two referees to Prof. Clint Rhode, *via* email with subject line: "Application: Postdoc in Aquaculture Genomics" (see contact details below). Applicants should request their referees to forward confidential reference letters by the closing date directly to Prof. Rhode. In the case of currently registered doctoral candidates, confirmation by the supervisor of the progress and completion date of the doctoral study must also be given. Short listed applicants will be contacted for an interview within four weeks after the closing date (applicants who have not received a response within this time, please accept that your application was not successful). Any additional enquiries can be directed to Prof. Rhode (details below).

Closing date: 31 August 2024

Commencement date: 3 February 2025 or as soon as possible thereafter.

Contact details:

Prof. Clint Rhode, MSc, PhD, PrSciNat

Group Leader & Principal Investigator

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Note: Postdoctoral fellows are not appointed as employees of the University and as their fellowship stipends are awarded tax-free, they are not eligible for employee benefits. The University reserves the right NOT to make an appointment if suitable candidates do not apply.