

Postdoctoral Fellowship

Deadline: 31 October 2024

Department of Microbiology, Faculty of Science, Stellenbosch University

A post-doctoral research fellowship in the Department of Microbiology at Stellenbosch University on the recombinant expression of antimicrobial peptides in yeast strains is available for 2025.

We have designed an efficient expression system to produce bacterial antimicrobial peptides (AMPs) in the yeast *Saccharomyces cerevisiae*, which will be evaluated for different applications, including controlling contaminating bacteria during raw starch fermentations. The AMP(s) that display the best activity will be used for upscaled production in bioreactors under optimised culture conditions. The candidate will develop and optimise protocols for the upscaled production of promising AMPs in laboratory and industrial strains of *S. cerevisiae*.

The 1-year fellowship (valued at R350 000) is linked to NRF funding; any extension will depend on progress and available funding. Please note that postdoctoral fellows are not appointed as employees, and fellowships are awarded tax-free (provided the candidate adheres to certain conditions). They are therefore not eligible for employee benefits.

The postdoctoral researcher will be expected to:

- Construct industrial strains of *S. cerevisiae* expressing recombinant AMPs.
- Develop and optimise protocols for the upscaled production of recombinant AMPs in laboratory and industrial strains.
- Perform small-scale fermentations with the AMP-producing *S. cerevisiae* yeast strains to evaluate AMPs as a replacement for antibiotics during starch-based Simultaneous Saccharification and Fermentation (SSF) regimes.

Requirements:

- PhD in Microbiology or related field, obtained within the past 5 years
- Ability to work independently and take full ownership of research and development projects
- Experience in recombinant yeast strain development and yeast bioreactor studies
- Strong written and oral communication skills in English
- Excellent social and team working skills
- Open-minded and a fast learner

Commencement of duties: 15 January 2025, or as soon as possible thereafter.

Closing date: 31 October 2024. Send a letter of application, accompanied by a comprehensive *curriculum vitae*, including a list of publications and the names and contact details of at least two referees, to mv4@sun.ac.za. Please note that communication will only be sent to shortlisted candidates.

Enquiries: Prof. Marinda Viljoen-Bloom, mv4@sun.ac.za