Fully-funded MSc position 2026 - 2027

Investigating the role of *Nectriaceae* fungi in avocado root rot

Black root rot (BRR), caused by fungi in the family *Nectriaceae*, is an emerging threat to avocado production in South Africa. While BRR has been reported in avocado-producing countries such as Australia, Italy, Chile, Israel, Colombia and New Zealand, there is limited information on the identity, prevalence, and pathogenicity of the *Nectriaceae* fungi affecting South African avocado nurseries and orchards. The disease causes severe root destruction in seedlings and young trees, leading to stunting, chlorosis, and ultimately tree death within 1–5 years. Without effective management strategies tailored to the local context, the South African avocado industry faces escalating losses during the critical nursery-to-field transition phase.

Research activities:

- Conduct *in vitro* growth studies (temperature, pH and nutrient source) of the most prevalent and pathogenic fungi associated with BRR.
- Evaluate the efficacy of commercially available fungicides and biological control agents against the most pathogenic fungi using *in vitro* dual-culture assays.
- Conduct greenhouse trials to test the efficacy of fungicides and/or biological control agents against pathogenic fungi associated with BRR during avocado infection.

Requirements:

- An appropriate degree – BSc Hons in Biotechnology/Genetics/Microbiology/Plant pathology, achieved with an above-average grade.
- Students must register full-time at the University of Pretoria in 2026 and will be based on the Hatfield campus full-time.

Bursary:

Competitive MSc bursary funded by the Hans Merensky Legacy Foundation.

HOW TO APPLY:

Applications should be sent to Prof Noëlani van den Berg (noelani.vandenberg@up.ac.za) and include:

- All previous degrees and academic records.
- A cover letter providing reasons for your interest in the project.
- An up-to-date curriculum vitae, including the names and details of two academic referees.