UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

FABI

ICFR

Position for M.Sc. candidate:
Species diversity and drivers of infestations of the soil insect pest complex associated with forest plantation trees

The Institute for Commercial Forestry Research (ICFR) in collaboration with the Forestry and Agricultural Biotechnology Institute (FABI) are looking for an enthusiastic Masters student for an exciting project that will contribute knowledge towards understanding the species diversity and drivers of infestations for the soil insect pest complex associated with forest plantation trees.

Plantation regeneration success can be particularly impacted by pests and pathogens that cause reduced post-plant survival. Several soil-dwelling pests, including termites, white grubs, cutworms, tipulid larvae, wireworms, millipedes and nematodes can cause high post-planting mortality during eucalypt, pine and wattle regeneration. Knowledge of the abundance, distribution and diversity of soil pests in relation to site characteristics can be used to understand specific drivers of high infestation levels. This data can be used to generate a risk-prediction model for soil pests that would inform management decisions to increase survival at re-establishment.

The MSc. project will involve field surveys to identify the dominant species within the soil insect pest complex that are associated with mortality of newly planted trees. Both morphological characteristics and molecular tools will be used. Various site characteristics will be determined, including climate and soil characteristics and surrounding land uses, to investigate the drivers of the infestations. In addition, collections from previous trapping trials will be used to investigate the flight period of the dominant pest species. The project will involve field work, insect identification, data analysis and spatial modelling.

Required qualifications: Honours or equivalent degree in Entomology, Genetics, Plant Science, Ecology, or a related field. Demonstrated analytical / statistical abilities and writing skills. In addition, the candidate should enjoy and be comfortable working in the field, have a strong academic background, good communication skills, and an ability to work independently.

Where: The successful candidate will be based at the Institute for Commercial Forestry Research (ICFR) in Pietermaritzburg, which will be the region of the field work. The candidate will also spend time at the Forestry and Agricultural Biotechnology Institute (FABI, www.fabinet.up.ac.za) at the University of Pretoria, where s/he will be registered in the Department of Zoology and Entomology.

Compensation: A full scholarship is offered for a two-year period.

Application Process: Email the following documents to Prof. Brett Hurley (brett.hurley@fabi.up.ac.za) and Dr Benice Sivparsad (benice.sivparsad@icfr.ukzn.ac.za) (1) A cover letter that includes your research interests (2) CV, including your academic transcripts (tertiary only) and contact information for three references.

Please note that only short-listed candidates will be contacted.

The deadline for applications is 05 January **2023**. The applicant will be expected to start in February 2023.