Opportunity for MSc study at the North-West University from 2023

Unit for Environmental Sciences and Management (UESM)

Bush encroachment and the spread of invasive alien plants contribute to rangeland degradation through reduction of carrying capacity, biodiversity and change in hydrological cycles, affecting adversely food security and livelihoods. This project will bring together a multidisciplinary team from five (5) institutions with several researchers from four (4) countries (Namibia, Botswana, South Africa and Germany). The project will evaluate different technologies for bush control and thinning, rehabilitation and aftercare, in terms of their efficiency, cost effectiveness, impact on the hydrological cycle and biodiversity.

Ultimately through training, creation of new value chains, technical support and inputs to a Decision Support Systems (DSS), the project will build capacity of communities and increase their resilience to climate change resulting in enhanced food security and livelihoods. The results will aid to develop tools that can be used by land users/managers, as well as policy regarding sustainable bush control/thinning technologies and rangeland rehabilitation to mitigate climate change even beyond the study areas.

The project will form part of the "Rangeland Improvement through Bush Control and Sustainable Intensification to mitigate Climate Change and Improve Livelihoods and Food security in Southern Africa (RIBS)", which is funded by the Southern African Science Services Centre for Climate Change and Adaptive Land Management (SASSCAL), Germany.

This project will be lead by Prof Klaus Kellner and Prof Pieter Malan from the North-West University, in collaboration with researchers from the Department of Agriculture, Land Reform and Rural Development (DALRRD) in the Northern Cape and North West Provinces, as well the Department of Forestry, Fisheries and the Environment (DFFE).

We are seeking <u>two</u> highly motivated MSc students to investigate bush control/thinning and rehabilitation methods in degraded arid- and semi-arid Savanna rangelands of the Northern Cape and North-West Provinces, South Africa. The study will be carried out on sandy soil ecosystems in different land use systems for a period of 2-3 years.

<u>One</u> MSc student will mainly work on the encroachment of *Senegalia mellifera* (black thorn) and <u>one</u> MSc student on *Rhigozum trichotomum* (three thorn) encroachment at selected study sites in the two Provinces mentioned above.

<u>Requirements</u>.

The candidate,

- must be excited about ecology and related fields (and have a strong background in the field assessment),
- have prior research experience (field work will be an asset),
- be enthusiastic to conduct challenging fieldwork, often alone in remote areas and over long periods,
- be interested to work with large datasets and contribute to the development of the DSS,
- have the ability and appetite to publish their research in high profile journals,
- have obtained their BSc Honours degree (with at least 65% pass mark) in the field of environmental sciences,
- have a valid driver's license (experience in 4x4 driving will be an asset), and

- have good writing and oral proficiency in English.

Application:

- Letter of motivation describing research interests, experience and suitability for the position.
- Academic transcripts of current or past academic institutions.
- An updated Curriculum Vitae.
- Letters of reference from two referees.

NB: Interviews will be held with selected candidates in Potchefstroom, South Africa.

Stipend/Salary:

The 12-month stipend (renewable) for both MSc studies will be available subject to adequate progress. Funding will include resources to conduct field work where necessary. Stipend and support will be negotiable.

Start date:
The successful candidate is expected to start in January or February 2023 (negotiable).

Please send your application per e-mail on/before **10 December 2022** to Prof Dr Klaus Kellner (Klaus.Kellner@nwu.ac.za).