

COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE

Post Doc POST (2-year fixed term): SCHOOL OF AGRICULTURE AND SCIENCE PIETERMARITZBURG CAMPUS Ref No: WRC02/2026

The University of KwaZulu-Natal, in collaboration with partner institutions, invites applications for a Postdoctoral Research Fellow to work on a Water Research Commission (WRC)-funded project entitled: **Enhancing Water Quality through Integrated Soil-Water-Groundwater Management in Flood-Prone South African Communities**

Project Overview

This interdisciplinary project addresses critical water quality challenges in flood-prone South African communities by investigating integrated soil–water–groundwater processes that control contaminant mobilisation, attenuation, and transport during extreme flood events. The research adopts a source–pathway–receptor framework, with particular emphasis on soil-mediated mechanisms, coupled surface water–groundwater interactions, and predictive modelling to support improved water quality management under flood conditions.

Key Responsibilities:

The Postdoctoral Research Fellow will play a central role in the scientific delivery of the project and will be expected to:

- Develop and lead an integrated Flood–Soil/Surface Water–Groundwater–Human Health conceptual model (including response/mitigation pathways) aligned to the WRC project.
- Guide and co-supervise MSc/PhD students, ensuring their scopes, methods, and outputs are tightly aligned to the project framework and deliverables.
- Conduct a global systematic review/meta-analysis of the flood–soil–water–health nexus to underpin the framework and inform indicator/method selection.

Minimum Requirements

- A PhD in Hydrology, Hydrogeology, Environmental Science, Soil Science, Environmental Engineering, or a closely related discipline
- Demonstrated research expertise in water quality, contaminant transport, soil–water interactions, and/or groundwater–surface water systems
- Experience with hydrological or hydrogeological modelling tools (e.g., MODFLOW, SWAT, HYDRUS, or similar)
- Experience with data analysis, modelling, and/or GIS-based spatial analysis
- A minimum of 3 publications
- Demonstrated experience in interdisciplinary research will be favourable.

Eligible and suitable candidates are encouraged to apply. The closing date for submitting applications is **20 February 2026**. This appointment will be made in line with the University Guidelines/benchmarks, available on the University Vacancies website, <http://vacancies.ukzn.ac.za/home.aspx>

Enquiries and details regarding this post may be directed to DR NN Dube on 033 260 5417 or email: duben5@ukzn.ac.

Application Requirements

Interested applicants should submit the following as a single PDF file:

- A covering letter outlining suitability for the position and research interests
- A detailed curriculum vitae
- Certified copies of academic qualifications
- A list of publications
- Contact details of at least two references

Applications should be submitted to: Miss P Sithole (sitholep@ukzn.ac.za). **The school reserves the right not to fill the post until a suitable candidate is found.**

Kindly note that the University of KwaZulu-Natal (“the University”) is required to process any Personal Information (as defined by the Protection of Personal Act, 2013 “POPIA”) submitted by candidates when applying for positions at the University. The University will endeavour to ensure that the appropriate security measures are in place and implemented for both electronic and paper-based formats that are used for processing of the personal information recorded through this recruitment and selection process. We refer you to the University’s relevant Section 18 notice at

http://vacancies.ukzn.ac.za/Libraries/General_Documents/Section_18_Note_-_Employees_and_Potential_Employees.sflb.ashx