**The University of KwaZulu-Natal (UKZN) is committed to Employment Equity. Preference will be given to applicants from the designated groups in accordance with our Employment Equity Plan.**

**COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE**

**POST DOCTORAL RESEARCHER: KZN COGTA DISASTER RISK REDUCTION (ONE POST)**

**ONE YEAR FIXED TERM APPOINTMENT (RENEWABLE UP TO MARCH 2026)**

**SCHOOL OF ENGINEERING**

**HOWARD COLLEGE CAMPUS**

**REF NO:** **ENG01/2024**

The Kwazulu-Natal Department of Cooperative Governance and Traditional Affairs has entered into an agreement with UKZN entitled “Programme of action on assessing and improving resilience (disaster risk reduction) and sustainability in integrated human settlement planning and governance”.

The recent flood and landslide disasters in Kwazulu-Natal, April 2022, have sharply highlighted that the changes in climate are resulting in more frequent inclement weather patterns, which are anticipated to become more frequent and unpredictable with the impact intensifying with each event should no conscious decisions that are intentional be taken swiftly. The flooding incident came as a test of the strength and effectiveness of the resilience systems currently being implemented, exposing the existing loopholes on the adequacy of these measures, particularly in human settlement planning in most areas.

The state of the environment is also not able to cope with severe climate events, and a compromised natural environment also limits the ability of the city to adapt to climate change. Poorly planned development and illegal encroachments to sensitive environmental areas have compromised the ecological functions and reduced the level of ecosystem services that the environment can provide. Flood control, detoxification of pollutants in water resources and control of sediment loads are examples of severely reduced ecosystem services due to the extensive loss of wetlands in the municipality as a result of poor planning.

The socio-economic cost of the flooding disaster has been counted in the high loss of lives, the huge human settlement displacements, the massive infrastructure damage and the loss of business. To avert devastation of this magnitude in the future, there is a need for due diligence to be conducted on the efficacy of the available tools from a planning, implementation and maintenance compliance perspective by the relevant stakeholders.

The Programme of Action intends to strengthen Municipal and Traditional Authority urban management and planning functions in settlements, with a particular focus on reducing climate change disaster vulnerabilities and increasing settlement resilience. This Post-Doctoral programme of action will support the following deliverables within the broader Departmentally led PROGRAMME OF ACTION ON DISASTER RISK REDUCTION IN INTEGRATED HUMAN SETTLEMENT PLANNING AND GOVERNANCE:

* Undertaking detailed diagnostic case studies on recent disasters.
* Undertaking a literature review and establishing an information portal of relevant guides, plans and research on disaster risk reduction and climate change with regards to Human Settlement planning and management.
* Development and implementation of an integrated multi-Stakeholder Engagement Plan/model to build up an active network of organisations that can jointly plan for and respond to disasters in human settlements.
* Review of existing municipal and provincial plans and capacity to plan for and respond to disasters in integrated Human Settlement Governance.

The Department will provide funding to the University to appoint four Post-Doctoral Fellows to undertake policy-orientated research to support the programme of action. This partnership falls under the broader Memorandum of Understanding (MOU) between the Department and the University.

Three post-docs have been appointed, and UKZN is recruiting for a 4th Post-doc to compliment the work of the other three, and to contribute to the COGTA Plan of Action. UKZN is looking to recruit in the following area of expertise, to be supervised by Prof Muthukrishnavellaisamy Kumarasamy and Dr Joy Adu, who are based in the School of Engineering:

**Stormwater systems/stormwater management/water resource management.**

Areas of activity include:

• Case study of the influence of storm water/water resource planning and management (as a component of land use management) on Climate change risks for integrated and resilient human settlements disaster based on hydrological underpinnings.

• Literature review of legislative and policy frameworks and gaps in Water resource/Storm water planning and management as a component of the South African Land use management system.

• Literature review of innovative solutions in Water resource/Storm water planning and management as a component of the South African Land use management system.

• Assessment of existing legislated spatial planning, land use, disaster management and environmental plans (and gaps in plans) and associated risks in terms of water resource/ storm water planning and management, and potential to mitigate risks.

• Identify key spatial planning and land use controls to mitigate risks, and resources required to implement priority controls.

We seek to appoint dynamic, innovative, and self-motivated professional with a strong background in stormwater systems/stormwater management/water resource management. The candidate is expected to work in a transdisciplinary environment, working closely with their supervisors, the other three Post-docs, academics across disciplines, and with staff from a range of government departments. The successful candidate will be expected to:

1. Quickly develop a detailed project proposal, and present this to the broader programme team for feedback and/or improvement. In particular, this process will identify specific elements and opportunities to align with the POA outcomes and deliverables, as well as policy and procedures within government sectors, thereby ensuring the products have maximum policy relevance and impact. This will facilitate the translation of the academic work into government practice.

2. Comply with all research ethical protocols.

3. Provide quarterly seminars and written progress reports to update the programme team. This will enable further feedback for improvement and potential for translation into practice.

4. Provide an annual report on the University reporting template, which will form the basis of the assessment of the work to date, and of renewal for the following period.

5. Attend broader programme meetings as they are scheduled, and will be invited to present progress and results to these meetings on an ad hoc basis.

6. Possibly be placed within the Department or another relevant Department for specific periods and/or activities. This will enhance the capacity and understanding of the Post-Doctoral Fellows to undertake translational work, as well as building capacity in specific areas within government. This will be on a flexible basis, and negotiated with the relevant supervisors to ensure that the achievement of key agreed deliverables is not adversely affected.

7. Publish their results in peer-reviewed journal in order to ensure quality evidence-base for future decision-making and planning.

8. Produce Policy Briefs and Guides based on their work in order to inform planning and decision-making.

The appointment will be on a 1-year fixed-term and may be renewed subject to satisfactory performance.

The successful applicant will be expected to engage in **full-time** postdoctoral studies under the supervisory team.

**Minimum Requirements:**

* South African Citizen or Permanent Resident.
* PhD in appropriate discipline such as Stormwater systems/Hydrology/Water Management/Water resources.
* Demonstrated experience in this area of expertise.
* Professional registration if appropriate.
* A proven research record as evidenced by some recent publications in peer-reviewed ISI/DHET rated journals.
* The candidate must have completed his/her PhD within five years of the appointment being made.

The Post-Doctoral fellowship is funded by the KZN Department of Cooperative Governance and Traditional Affairs for 12 months, with a stipend of R280 000 per annum (non-taxable), renewable for an additional period up until 31 March 2026, upon satisfactory progress.

Candidates who are self-motivated, rigorous, and responsible with a track record showing ability to conduct independent research and publications in reputable journals are encouraged to apply. **The closing date for receipt of applications is 27 October 2024, however, this advert will remain open until the position is filled.**

Enquiries and details regarding the post may be directed to the specific supervisors at the following contact details: [Kumarasamy@ukzn.ac.za](mailto:Kumarasamy@ukzn.ac.za), or [AduJ@ukzn.ac.za](mailto:AduJ@ukzn.ac.za);

This appointment will be made in line with the University Guidelines/benchmarks which are available on the University Vacancies website at http://vacancies.ukzn.ac.za/Academic-Process-Proc-Guides.aspx

**Fellowship Award applications should consist of:**

Applicants are required to submit the following: (1) CV with publication record, (2) letter of motivation, (3) Full academic records, and (4) contact details of two academic referees to Prof Kumarasamy and Prof Slotow, Email: [kumarasamy@ukzn.ac.za](mailto:kumarasamy@ukzn.ac.za) and [Slotow@ukzn.ac.za](mailto:Slotow@ukzn.ac.za). The advert Reference Number MUST be clearly stated in the subject line.