



The University of KwaZulu-Natal (UKZN) is committed to Employment Equity with the intention to promote representivity within the Institution. Preference will be given to South African applicants from the designated groups in accordance with our Employment Equity Plan

**POST-DOCTORAL FELLOWSHIP (1 POST)
(12 MONTHS APPOINTMENT)**

**DISCIPLINE OF ELECTRICAL ELECTRONIC AND COMPUTER ENGINEERING
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
HOWARD COLLEGE CAMPUS**

REF NO: ENG-EECE-PD1

The Discipline of Electrical Electronic and Computer Engineering (EECE) at UKZN that conducts research and development on problems related to wireless sensor networks (WSN) in water quality monitoring. Together with uMngeni uThukela water the discipline has undertaken a project on the automation of the UUW water plants. Developing real-time smart water quality monitoring systems, control models is an integral part of the project. The discipline is involved in advancing or developing new digital communication technologies and artificial intelligence techniques and their application in diverse fields including wireless sensor networks (WSN).

The successful candidate for this position will be involved in the development and investigation digital communication techniques for underwater WSN for water quality monitoring. The project will propose optimal energy efficient communication designs and fabrication to improve the data transmission, monitoring and compare to the few existing designs for water quality monitoring WSN. The developed design techniques will aim to improve capacity while addressing the arising challenges of underwater WSNs. Artificial intelligence techniques for water quality parameter prediction will be explored. A capacity evaluation of the design will be carried out and practical parameters developed to assist in the ongoing implementation of a water quality monitoring **SONDE**.

The duration of the appointment will be 12 consecutive months, starting in April 2025, and may be extended based on performance should additional funding be secured.

Each post-doctoral research assistant is paid a R200 000 stipend per annum.

MINIMUM REQUIREMENTS

- The candidate must have been awarded a PhD in Engineering or Computer Science or allied disciplines *within the past 5 years*.
- A demonstrated record of research in Digital Communications, Wireless Sensor Networks or a related field.
- A demonstrated ability to write code, reports and journal articles.

Applicants who do not meet the minimum requirements will not be considered. The closing date for receipt of applications is Friday 21 February 2025.



Applicants are required to submit the following documents in a single pdf file to **Ms Dumisile Mbona**, Ngcobod@ukzn.ac.za copied to Walingo@ukzn.ac.za.

- 1) A motivational letter (2-4 pages) outlines the relevant expertise and experience in meeting each of the minimum requirements listed above.
- 2) A 2-4 pages brief research proposal on the research project.
- 3) A detailed CV including the list of publications and other scholarly output
- 4) Contact details for two referees.
- 5) Full transcripts of academic records and copy of doctoral degree certificate or relevant evidence of pending completion.
- 6) Copy of ID document (or copy of passport in the case of foreign applicants).

For inquiries or additional information, please contact Prof T Walingo, Walingo@ukzn.ac.za.