

HYDROGEOLOGY PHD CANDIDATES (TWO IN TOTAL) – DEPARTMENT OF EARTH AND CLIMATE SCIENCES, UNIVERSITY OF NAIROBI

The University of Nairobi, in partnership with the IHE-Delft as the project lead, and other collaborators (Kenya Water Institute – KEWI; Kenya Marine and Fisheries Research Institute – KMFRI), is implementing a project entitled “***GroundWater SuStainable and Equitable development uNder Constraints of Ecosystem conservation and saltwater intrusion prevention in large deltas*** (abbreviated GWS-SENCE). The main aim of the project is to promote sustainable and equitable groundwater resources development through a trans- and interdisciplinary approach involving applied research, joint learning, dialogue and capacity strengthening. More broadly, the project is being carried out in three study areas that cover the different target regions of DUPC3, with different socioeconomic and hydroclimatic conditions: i) the Niger delta (Rivers State) with tropical monsoon climate, large urban areas and rural populations with poor access to water, ii) the hot desert Nile delta (Sharkia governorate), with farmers trying to cope with limited access to water, and iii) the tropical savannah Tana delta (Lamu area) with increasing water conflicts between communities and business developers. This project is funded under the collaborative program DUPC3 between the Ministry of Foreign Affairs of the Netherlands and IHE Delft, and the University of Nairobi is the lead partner in Kenya. It also seeks to promote open and inclusive dialogue among and between water stakeholders to protect and optimise the use of groundwater resources and dependent ecosystems (and services) within a vulnerable context of growing water demand, rising sea levels and the prevalence of droughts.

The project seeks to recruit two PhD students in (1) Hydrogeology and (2) Environmental Geoscience to carry out groundwater research in Lamu County, Kenya.

The broad topics will be as follows:

1. PhD (Geology - Hydrogeology) – Aquifer Characterisation, Groundwater Modelling and Future Scenarios under Climate Change in Lamu County.
APPLICATION CODE: GWS-SENCE-PHD-001;
2. PhD (Geology – Environmental Geoscience) – Environmental Isotopes Investigation of the Interaction of Surface (River, Ocean) and Groundwater and their Impacts on Groundwater Dependent Ecosystems (Mangroves) in Coastal Lamu County.
APPLICATION CODE: GWS-SENCE-PHD-002.

There will be further development of these objectives, which align with the overall programme objectives which are multidisciplinary in nature, and under the guidance of the Principal Investigator in Kenya and assigned supervisors.

Kindly note that one can only apply for one of the positions, so make your selection carefully. The ideal candidates will have a background in geology/hydrogeology/geosciences, with a strong interest and experience in aquifer characterisation, groundwater flow modelling, groundwater quality assessment, environmental studies, climate change and water resources, and community engagement. The candidate should also have excellent analytical, communication, and writing skills, as well as a willingness to work in a diverse, multicultural team and field study area.

Mandatory Requirements

- Must be a Kenyan citizen;
- Must be an early career researcher who has completed their masters degree not more than five years earlier than the time of application (not older than 31st May 2018);
- Must be willing to be contracted as a full-time student for the duration of the scholarship.

Additional Requirements

- MSc. degree in the following disciplines; geology, applied geosciences, hydrology, geophysics or any closely related degree in the earth sciences that are acceptable for admission to the University of Nairobi degree programmes;
- Experience in GIS and statistical analysis,
- Willingness to travel and work for extended periods in Lamu County and/or visit to partner countries for project-related activities;
- A team player and inclined to multidisciplinary research
- Values a multi-cultural work environment and can work with marginalised groups;
- Experience in hydrogeological modelling and water quality assessment: experience with groundwater in coastal environments is an added advantage;

Responsibilities

- Conduct detailed geological mapping within the study area
- Carry out geophysical field investigations
- Conduct water quality monitoring and hydrogeochemistry modelling
- Saltwater intrusion modelling
- Installation and monitoring of hydro-metrological monitoring stations in Lamu County
- Data analysis and interpretation, leading to the development of conceptual models
- Dissemination of research outputs to stakeholders and research partners through conferences, workshops and seminars
- Collaborate with other members of the research team and external partners
- Publish papers in international peer-reviewed journals
- Carry out any other tasks as directed by the Project Principal Investigator.

Terms of Employment

This is a full-time PhD position with a duration of three years, starting in September 2023 and ending in August 2026 (36 months), with the expectation that the candidate will submit and successfully defend the PhD within this period. The student will be registered for the PhD in Geology course in the Department of Earth and Climate Sciences, Faculty of Science and Technology, University of Nairobi. A monthly stipend will be paid to the student following successful provisional admission to the PhD programme. Full admission to the PhD programme will be granted upon the student presenting an approved research proposal - this process should be completed within the first six months of the programme. All research and travel expenses shall be covered by the project.

Application Information

If you are interested in this opportunity, please send your applications containing (1) a motivation statement (500 words maximum), (2) an introductory and signed cover letter (one page) which clearly specifies the application code, (3) a CV summarizing your academic and professional experience, and publications, if any (4 pages maximum) and (4) two reference letters as follows; (a) academic (b) professional, preferably in the areas mentioned above; to chairman-earthclimatesciences@uonbi.ac.ke and copy florecet@uonbi.ac.ke. The applications close on Friday 30th June 2023.

The application must be submitted as a single PDF file.

Women are strongly encouraged to apply.