



PWANI UNIVERSITY–IDeAL PhD FELLOWSHIP

Pwani University, a premier University situated in the beautiful scenic tourist resort town of Kilifi at the Coast is an equal opportunity employer. The University's mission is to generate, disseminate and apply knowledge while sustaining excellence in teaching, learning and research by moulding students to international standards and encouraging and supporting faculty to undertake research.

Pwani University and its partners, the Initiative to Develop African Research Leaders (IDeAL) are offering two 3-year fully funded PhD fellowships. The fellowship includes tuition fees, a monthly stipend, basic medical cover and project support.

Projects will be co-supervised between Pwani University and KEMRI–Wellcome Trust Research Programmes.

PhD 1: Immunology

Malaria continues to devastate hundreds of individuals across the world with the majority of fatalities being children below the age of 5 years living in sub-Saharan Africa. While mild disease can be treated, cerebral malaria, severe respiratory distress and severe anemia among other severe malaria forms cause serious life threatening disease. The *var* gene encoded *P. falciparum* erythrocyte membrane protein 1 (PfEMP1) has been demonstrated to be a good candidate for the next generation malaria vaccine. Further, evidence suggests that specific PfEMP1 domains may be associated with specific syndromes of severe malaria, making them good candidates for syndrome specific interventions. Unfortunately, PfEMP1 is very variable making it a complex target.

Over the years, using acute malaria samples from a hospital cohort, carefully matched case control approaches and CHMI studies, our group has collected clinical data, parasite sequences (DBL α tag sequences, whole genome data) and host immunity data (protein micro array) data aimed at identifying *var* genes that can be taken forward in design of the next generation malaria vaccines. The main questions this fellowship will address include Identifying PfEMP1 domains associated with severe malaria syndromes and establishing the relationship between sequence diversity and antigenic diversity in *var* genes

Eligibility

Applicants must have

- i. Bachelor's degree in Biosciences or related discipline with a minimum of Second Class Honours Upper Division from a recognized institution
- ii. Master's degree from a recognized institution in a discipline such as Immunology, Biochemistry Bioinformatics, Microbiology and other related fields with a strong Immunology background
- iii. Experience in computing or bioinformatics

PhD 2: Public Health

The World Health Organization (WHO) “END-TB strategy” aims to reduce Tuberculosis (TB) deaths by 95% and reduce new cases by 90% 2015 through 2035. However, emergence of MDR and XDR TB, and co-morbidity with other chronic diseases challenge this goal. Methods of TB diagnosis including clinical history, clinical examination, chest radiograph (CXR), sputum smear and culture have been used for decades. More recently a molecular test, GeneXpert has been introduced. However, all of these methods have been found to be prone to significant errors to differing extent, potentially leading to over diagnosis of TB and/or misdiagnosis as alternative diagnosis is missed. In Kilifi County, Kenya we reported a 2–5-fold higher mortality among clinically diagnosed compared to bacteriologically confirmed TB cases. We hypothesize that a proportion of the clinically diagnosed TB cases did not have TB but other serious conditions with clinical presentation similar to TB. Therefore, accurate and timely diagnosis is essential to facilitate correct therapeutic measures. Identifying the etiology of the TB-like illnesses has the potential to limit unnecessary use of TB drugs, mitigate against the development of drug resistance and reduce the risk of death due to untreated underlying illness. We propose to conduct a prospective cohort study among clinically diagnosed, bacteriologically diagnosed TB patients starting anti-TB treatment in Kilifi County with the overarching objective to comprehensively investigate for alternative diagnosis.

Objectives of the PhD project include to determine the proportion of patients starting TB treatment based on a clinical diagnosis, with other serious health conditions accounting for their presentation, to determine the transcriptomic signatures between patients and controls which will be informative towards alternative diagnosis and to determine the effect of a

systematic screening approach among clinically diagnosed TB patients on treatment outcomes for patients with other serious health conditions.

Eligibility

Applicants must have

- I. Bachelor's degree in a clinical discipline such as Medicine, Pharmacy, Nursing Sciences or equivalent
- II. Master's degree from a recognized institution in a discipline such as Public Health, Microbiology, Biochemistry, Molecular biology and other related fields
- III. Previous experience of at least two-years of clinical research/practice
- IV. Evidence of at least one peer-reviewed publication
- V. Molecular epidemiological/lab experience will be an added advantage

Application procedure

Applications should include a

- I. Motivation statement
- II. A 2-page concept note developed for project 1 or 2 above
- III. An up-to-date CV, which provides details of the applicant's academic and professional qualifications and relevant experience
- IV. Copies of academic certificates and transcripts
- V. Evidence of membership to a professional or regulatory body where applicable
- VI. Names and contacts of three referees who are knowledgeable about the competence of the applicant.

Interested applicants should submit a **single combined PDF** of their application with all support documents listed above to puidealrecruitments@pu.ac.ke.

Only applications sent through this channel will be considered.

Applications and recommendations letters from referees indicating the project of interest



should be addressed to:

The Principal Investigator
PU-IdEAL 2.0
Pwani University
P. O Box 195-80108, Kilifi

The deadline for submitting applications is 29th December 2023 by 5:00 pm.
Applications received later than this date **will not** be considered.

Please note: Only shortlisted candidates will be contacted.
Canvassing will lead to automatic disqualification.

Pwani University provides equal opportunity for all candidates; female candidates and persons living with disabilities are encouraged to apply.

Persons living with Disabilities should attach a copy of their National Council for Persons with Disabilities (NCPWD) registration Card.

NO FEE

PWANI UNIVERSITY DOES NOT CHARGE A FEE AT ANY STAGE OF THE RECRUITMENT PROCESS (APPLICATION, INTERVIEW MEETING, OR APPOINTMENT).