UNIVERSITY OF DAR ES SALAAM
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Call for applications for 1 PhD Fellowship within vector-borne disease modelling

Project Outline

The Danish Ministry of Foreign Affairs through the Consultative Research Committee for Development Research (FFU) has recently granted the research project entitled *Predicting vector-borne disease epidemics: Dissemination of risk forecasting using District Health Information Software2 in Tanzania* (PreVBD) full support, including funding for a PhD fellowship with focus on vector-borne disease modelling.

The study of the PhD fellow will include, but not be limited to, modelling mosquito vector (*Aedes* and *Anophele*s) distribution and abundance patterns, as well as spatio-temporal modelling of dengue and malaria transmission in the regions Tanga on Tanzania mainland and Unguja, Zanzibar, using field collected data on vectors, serology and climatic/meteorological data. This includes development of state-of-the art predictive models, combining mosquito ecological niche/statistical models, machine learning with mathematical VBD outbreak models (statistical surveillance) for timely recognition of epidemic dengue and malaria risks. Part of the study also entails working with partners at University of Dar es Salaam (UDSM) as well as other project partners on ways to integrate data and model outputs with the District Health Information Software 2 (DHIS2) to visualise and disseminate outcomes, or refine predictions.

Qualifications

All applicants must possess the following:

- A Master's degree (or equivalent training) in a quantitative subject, preferably epidemiology, biostatistics, mathematics or related field. Experience in spatial and/or temporal statistics/modelling is a plus.
- Strong interest in infectious disease modelling.
- Ability to program in some programming language, preferably R, combined with a strong desire to learn/develop one's programming skills.
- Strong communication skills in English, both oral and written.
- Previous publications/experience related to the research theme is considered an asset.
- Willingness to commit full time effort to his or her PhD training programme.
- Must possess citizenship from Tanzania or another neighbouring country in the region
- Female candidates are encouraged to apply

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Application

Applications must include the following documents:

- Cover letter describing why you wish to undertake this fellowship and how this study may further your career (max. 1 page) including a short description of your experience in spatial and/or temporal statistics/modelling.
- Short concept note focusing on the subject of the PhD call with particular focus on climate changes, risk of vector-borne diseases (VBDs) and how statistical and/or mathematical models may assist in forecasting epidemic risks of VBDs with particular focus on dengue and malaria (max. 2 pages, excluding references)
- Recent CV indicating previous and/or current employer(s) and position(s) held, as well as a list of peer reviewed publications (if any). Max 2 pages.
- Certified copies of academic transcripts and relevant certificates
- Letters of recommendation from two referees including phone numbers and e-mail addresses

Please note that all shortlisted candidates are required to attend a **selection interview** and to give a short **presentation of their concept note** as part of this interview. If necessary, these interviews may be conducted via Zoom. The date of the selection interview will be communicated **within 2 weeks** of the application deadline.

Application deadline

Applications must be submitted by e-mail to project partner, Associate Prof. Anna-Sofie Stensgaard (asstensgaard@sund.ku.dk) and copied to Project coordinator Amina Farah at amifa2001@gmail.com and Dr. Wilfred Senyoni (senyoni@gmail.com) **before 15.05.2021** Applications received later than this date will not be considered. Further details may be obtained via the above e-mail address.

PhD enrolment and evaluation

The successful candidate **will be enrolled at University of Dar Es Salaam** and offered a 3-year PhD scholarship, with the possibility of 1 year extension, covering university fees, research costs and a student stipend in accordance with UDSM regulations. The PhD supervision will be a joint effort between the University of Dar es Salaam (UDSM), the University of Copenhagen, Denmark (UoC) and University of Gothenburg, Sweden (UoG). The PhD fellow will have the opportunity to take advanced courses at all partner institutions, including UoC and UoG. At least one 3-months research stay with the Northern European partners is expected. Evaluation of the progress of the PhD activities will be done according to current regulations at the University of enrolment.

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