

## Call for applications for PhD Fellowships

### INTRODUCTION

#### Use of whole genome sequencing for clinical diagnostics of infectious diseases

The advancement of genome technologies holds great promise for improving the quality and speed of public health laboratory investigations, and for decreasing their cost. The latest genome DNA sequencers are now suitable for routine use in public health laboratories and may replace conventional culture-based and molecular bacterial methods for laboratory diagnosis. Especially in low income areas this might create new options, and enable laboratories to “leapfrog”, avoiding the development of very costly and often insufficient laboratory systems similar where separate specialist testing capacities exist for each of the many microbiological families. The problem is the need of very specialized knowledge, computation and tools to analyze the data generated in a standardized and comparable way and provide plain language reports to the primary care users.

Two PhD-positions are available for a project where the most recent sequencing technologies will be used to completely sequence infectious agents in real-time at Kilimanjaro Clinical Research Institute (KCRI) combined with bioinformatic analytic facilities at The Technical University of Denmark (DTU). The purpose is to evaluate whole genome sequencing as a primary diagnostic tool and to describe the epidemiology and clonal diversity of the most important infectious agents in Tanzania.

#### Tasks

The two PhD-students will work closely together and both will spend time at DTU learning basic bioinformatic tools and technologies and studying infectious disease epidemiology, as well as being responsible for setting up bench top sequencing at KCRI. The candidates will be enrolled for their PhD at KCMUCo of Tumbaini University. One student will focus on the bioinformatic aspects of the project (PhD-1) and the other will focus on the clinical aspects and epidemiology of infectious disease (PhD-2).

#### Qualifications

Applicants for position PhD-1 are expected to have a master degree in natural science, biology, engineering, or similar. Applicants for position PhD-2 are expected to have a master degree in natural science, biology, engineering, medicine or similar.

The ideal candidates have documented excellence in microbiology as well as experience with computer science and/or epidemiology. In addition, the applicants

should have an interest in science, ability to work independently as well as together with others and good social skills. Good communications skills in both written and spoken English are expected. Documented scientific production will be an advantage.

Please indicate whether you apply for position 1 or 2 or both and in the latter case which position you might prefer.

**The application letter should include:**

- A letter motivating the application
- Applicant's detailed address (including e-mail and mobile phone number)
- A 2 - 3 page information about your research background relevant to the position.
- Certified copies of certificates and academic transcripts
- Recent CV indicating position and employer
- List of peer reviewed publications, and national/international scientific presentations
- 2 letters of recommendation from academicians with their telephone numbers and e-mail addresses

The application **deadline is 12<sup>th</sup> January 2013**. All applications must be submitted to Ms Rogathe Machange

KCRI - KCMC

P.O Box 2236

Moshi, Tanzania

*Email:* [r.machange@kcri.ac.tz](mailto:r.machange@kcri.ac.tz)

Please note that all shortlisted candidates will be required to attend a **selection interview** and to give a **presentation**. The date of the interview will be communicated after short listing **within 2 weeks** after the above mentioned closing date.

**More information**

Further information might be obtained from Ms Rogathe Machange ([r.machange@kcri.ac.tz](mailto:r.machange@kcri.ac.tz)) and at [www.kcri.ac.tz](http://www.kcri.ac.tz)