



## Call for Fellowships Afrique One-ASPIRE

### TTP3: Mycobacterial Infection and Control

Ref: [TTP3-Mycobacteria-PhD/MSc](#)

**Project Title:** Bio-molecular techniques to differentiate mycobacterial species with zoonotic potential to determine drug susceptibility patterns and advise on policy changes on existing treatment options

**PhD and MSc Fellowship:** 3 PhD and 4 MSc fellows will develop projects in line with the above topic to be conducted within the Afrique One-ASPIRE consortium in population and ecosystem health.

**Enrolment:** Fellows will be enrolled at any of the following institutions: University of Ghana, Ghana, University of Doba, Chad, KCRI/KCMC, MUHAS, NM-AIST and SUA, Tanzania, EISMV, Senegal or Université Félix Houphouët-Boigny, Côte d'Ivoire.

**Project Description:** Tuberculosis (TB) causes 8 million infections and 1.5 million deaths annually with a rise in multi-drug resistance cases in developing countries. There is an increased rate of TB treatment failure which urges to invest more resources in studying species and aetiologies using available and novel techniques. The outcomes of the overall project will serve as a guide to governments and members of the public health community in formulating new or reviewing existing treatment options and policies for TB and non-TB mycobacterial diseases in African population.

This project will be conducted by 3 PhD and 4 MSc students who will develop/add to the existing expert team to fight against TB in Africa. The PhD and MSc students are expected to develop their own concepts along the following objectives:

1. to differentiate *Mycobacterium tuberculosis* complex (MTBC) isolates at the species level from TB disease prevalence surveys and selected clinics including MDR clinics and animal sources
2. to differentiate non-tuberculous Mycobacteria (NTM) isolates to the species level from TB disease prevalence surveys, selected clinics including MDR clinics and animal sources

3. to use innovative techniques to uncover the etiological agent(s) of extra-pulmonary TB and their drug susceptibility profiles
4. to determine the presence of mutations associated with drug resistance using sequencing
5. to determine the first and second line drug susceptibility patterns of MTBC isolates
6. to determine the drug susceptibility patterns of NTM isolates
7. to identify novel immunological and microbiological techniques for diagnosing TB in cattle

**Mentorship Team:** Sayoki G. Mfinanga, Bernad Ngowi and Esther Ngadaya (NIMR); Sven G. Hinderaker (University of Bergen, Norway); Rudovick Kazwala (SUA); Blandina Mmbaga, Hadija Semvua, Stellah Mpagama and Marion De Boere Sumari (KCRI/KCMC); Kennedy Kwasi Addo (NMIMR); Lydi Mosi (University of Ghana); Richard Ngandolo Bongo (IRED); Jacob Zinsstag, Sebastian Gagneux and Felix Roth (Swiss TPH); Julius Keyyu (TAWIRI), Joram Buza and Francis Shahada (NM-AIST); Bassirou Bonfoh (CSRS); Sarah Cleaveland (GoU); Mark Wamalwa (BecA-ILRI)

**Qualifications:** The candidate must be a citizen of an African country. Candidates from any discipline contributing to One Health (e.g. public health, veterinary and animal sciences, social sciences, geography, epidemiology and health economics) will be considered. Candidates with an MSc degree in a relevant field are preferred.

**Duration and Training:** The PhD is funded for 3–4 years (including maternity leave) and the MSc for 2 to a maximum of 2.5 years. Fellows will absolve a thematic training program on mycobacterial infections. Training will be provided primarily in Afrique One-ASPIRE countries, with opportunities for further training within the Afrique One-ASPIRE consortium and with supervisory partners in the UK, Switzerland and US, depending on needs and internal budget considerations.

**For more information, contact the co-leads:**

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