



Call for Fellowships Afrique One-ASPIRE

TTP2: Thematic Training Program on Brucellosis Control and Prevention

[Ref: TTP2-Brucellosis-PhD2](#)

Project Title: Host-pathogen associations in Sub-Saharan Africa

Enrolment: The PhD fellow will be enrolled at SUA, Tanzania or EISMV, Senegal.

Project Description: Human brucellosis is caused by several different pathogen species, each of which has a complex multi-host epidemiology. Data from Europe, North America and the Middle East indicate that *Brucella abortus* is commonly maintained in cattle and *B. melitensis* in sheep and goats. However, in Sub-Saharan Africa *B. abortus*, *B. melitensis* (and *B. suis*) have been reported in cattle and all of these pathogens (as well as *B. ovis*) have also been observed in sheep and goats. Brucellosis is known to be present in all of the five main livestock production systems in Sub-Saharan Africa. Animal disease prevalence/incidence is variable across livestock systems but typically greater in larger and mixed species herds. Data from Sub-Saharan Africa are mostly serological and interpretation is hamstrung by the inability to differentiate between *Brucella* species and the capacity for transmission of several *Brucella* species between different animal host species. Consequently, in this region, we don't know whether cattle, and/or sheep and goats, are infected with *B. melitensis*, with *B. abortus* or with both, or which *Brucella* species are responsible for most human illness. Conclusively, current attempts to control brucellosis are hampered by the absence of information on two fundamental aspects of the epidemiology of brucellosis in Sub-Saharan African. First, which pathogen species is/are the most important cause of human illness; second, which animal species constitute the reservoir and/or source for human infections? To address these questions, the detection, isolation and typing of *Brucella* spp. in different species is essential.

This PhD project will build on and strengthen collaborative links between on-going projects within Tanzania but also between the different countries involved in Afrique One-ASPIRE. In Tanzania SUA, NM-AIST and KCRI/KCMC are all partners in the ongoing BBSRC-DfID funded Zoonoses in Emerging Livestock Systems (ZELS)

Brucella project and are all involved in Afrique One-ASPIRE going forward. Through partnerships with the Animal and Plant Health Agency (APHA) in the UK, the ZELS consortium and Afrique One-ASPIRE there are also opportunities to coordinate research activities and share techniques and approaches between East and West African countries.

Mentorship Team: Rudowick Kazwala (SUA); Joram Buza (NM-AIST); Bassirou Bonfoh (CSRS); Jakob Zinsstag (Swiss TPH); Jo Halliday, and Dan Haydon (UoG)

Potential Project Partners (outside the existing consortium members): John McGiven, Adrian Whatmore and colleagues at Animal and Plant Health Agency (APHA), UK and Simon Babayan (UoG)

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, epidemiology, molecular biology or immunology) will be considered. Candidates with an MSc degree in a relevant field are preferred.

Training: A thematic training program will be conducted on brucellosis within the Afrique One-ASPIRE consortium in population and ecosystems health. Training will be provided primarily in Tanzania or Senegal, with opportunities for further training within the Afrique One-ASPIRE consortium and with supervisory partners in the UK and Switzerland depending on needs and internal budget considerations.

For more information, contact the Co-leads:

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