

## Dispersal of Antibiotic Resistance and antibiotics in Water ecosystems and Influence on livestock and aquatic wildlife (PAIRWISE)

### A. Background

The PAIRWISE project focuses on dispersal and dynamics of antibiotic resistant bacteria (ARB), antibiotic resistance genes (ARG) and antibiotics (ATB) in aquatic environments affected by wastewater treatment plants (WWTPs), with a 'One Health' perspective (<https://www.jpiamr.eu/projects/pairwise/>) in the catchments of both River Rwizi and Aswa. Overall goals are to evaluate: i) dispersal of ARB, ARG and ATB in surface waters downstream of WWTPs; ii) carriage of ARB and ARG in livestock linked to surface waters influenced by WWTPs; and iii) role of aquatic birds in dispersal of ARB and ARG.

### B. The scholarships

As previously mentioned, and as part of the PAIRWISE capacity building component, we are inviting applications for a One (1) Year research scholarship tenable at Makerere University:

### MSc Scholarships and respective research areas

**MSc.1** - Assessment of the level and dispersal of ATB in river water upstream and downstream of wastewater treatment plants and hospital effluent.

**MSc.2** - The dispersal of antimicrobial resistance bacteria and genes through aquatic birds under different climatic and geographical conditions.

**MSc.3** - Characterisation of clinically important antibiotic resistant bacteria and genes in river waters upstream and downstream of WWTPs and hospital effluent.

### C. Scholarship Benefits

The scholarship will support tuition, research costs, and a modest stipend. The applicants must therefore be **full-time students**. The support is available to applicants who are nearing successful completion of year one, and preparing to start research projects in the 2021/2022 Academic Year.

### D. Eligibility

1. The scholarships are open to eligible MSc. students who are duly registered for programmes in the disciplines of Biology, Zoology, Biochemistry or Wildlife.
2. Applications from suitably qualified females are particularly encouraged.
3. Laboratory skills in microbiology and molecular genetics will be of added advantage.
4. Willingness and ability to work in remote areas of western and northern Uganda.

### E. Application process

The application package should include:

1. One-page motivation letter on the research topic of interest.
2. Curriculum vitae (maximum 2 pages).
3. Copies of academic documents.
4. Evidence of registration on an MSc. programme at Makerere University.
5. Recommendation letters from **two** academic referees.

Applications should be compiled into a single PDF file and submitted electronically to the Principal Investigator, Assoc. Prof. Charles Masembe ([charles.masembe@mak.ac.ug](mailto:charles.masembe@mak.ac.ug)), and a copy to Dr. Robinson Odong ([robinson.odong@mak.ac.ug](mailto:robinson.odong@mak.ac.ug)), by 14<sup>th</sup> January 2022.

*Note: Only short-listed candidates will be contacted.*