I prefer:

x ORAL presentation

□ POSTER presentation

**Addressing Antimicrobial Resistance Research Gaps in sub-Saharan Africa – A One Health Approach**

Rea Maja Kobialka1, Arianna Ceruti1\* , Julius Boniface Okuni2, Yakhya Dieye3, Micheal Frimpong4, George Olusegun Ademowo5, Sheila Makiala6, Yimtubeznash Woldeamanuel Mulate7, Paul Kadetz2 , Kamal Eltom8, Ahmed Abd El Wahed1, Annemarie Käsbohrer9, Damalie Nakanjako10, Uwe Truyen1

1 [arianna.ceruti@uni-leipzig.de](mailto:arianna.ceruti@uni-leipzig.de) Institute of Animal Hygiene and Veterinary Public Health, University of Leipzig, Germany

2 Makerere University, College of Veterinary Medicine, Animal Resources and Biosecurity (MAK-COVAB), Uganda

3 Institut Pasteur de Dakar (IPD), Senegal

4 Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR), Ghana

5 University of Ibadan (UI), Nigeria

6 Institut National de Recherche Biomédicale (INRB), Kongo-Kinshasa

7 Centre for Innovative Drug Development & Therapeutic Trials for Africa (CDT-Africa)

8 University of Khartoum (UofK), Sudan kamala

9 The German Federal Institute for Risk Assessment (BfR), Germany

10 Makerere University, College of Health Sciences (MAK-CHS), Uganda

**Abstract:**

**Background/Objective:**

The excessive use of antibacterial agents in veterinary and human medicine leads to a reduction in effectiveness and in many cases to the development of resistances. Antimicrobial resistance (AMR) has become a major problem worldwide. While most high-income countries have already developed a strong surveillance system for AMR, low- and middle-income countries, especially in Sub-Saharan Africa, require an urgent need for monitoring AMR. This as well as the coinfection with neglected tropical diseases (NTDs) remains a significant challenge across sub-Saharan Africa.

The aim of this project is to build the capacity across 7 sub-Saharan countries for improved management of AMR and NTDs. The focus here lies on identifying the linkages and transmission of AMR between humans, animals and the environment in a One-Health context. In order to better control AMR, academic and research institutions from the eight participating countries have investigated and developed 6 tasks to build the local capacity to identify the main transmission routes.

**Methods:**

The tasks include screening for AMR in humans, livestock and poultry, employing surveillance and genetic mapping of circulating AMR strains; investigating relationships between helminthic infections and drug resistant bacteria; developing capacities for point of need diagnostics of AMR and NTDs using mobile tests for field use; identifying any changes in antimicrobial use and AMR incidence during the COVID-19 pandemic in Sub-Saharan African contexts; controlling communicable disease transmission, by identifying and improving existing hygienic practices at the human-animal-environment interface; and building capacity for sustainable leadership in antimicrobial stewardship (AMS).

**Results:**

The project is facilitating the development and collaborative work of a network to prevent infectious diseases, as aligned with the UN SDG #3. Building capacity, interdisciplinarity, and exchange of knowledge for the prevention of communicable diseases via a one health approach are the core work of this network. Involvement of pertinent policy makers and other essential stakeholders in the ministry of health and other government agencies of the network countries is ensuring the achievement of the project objectives.

**Conclusion:**

With the established consortium this project proposes unique solutions for AMR/AMS through the development of both knowledge and technological infrastructure from a large, diverse, multidisciplinary team.

**Keywords:** antimicrobial resistance, surveillance, neglected tropical diseases