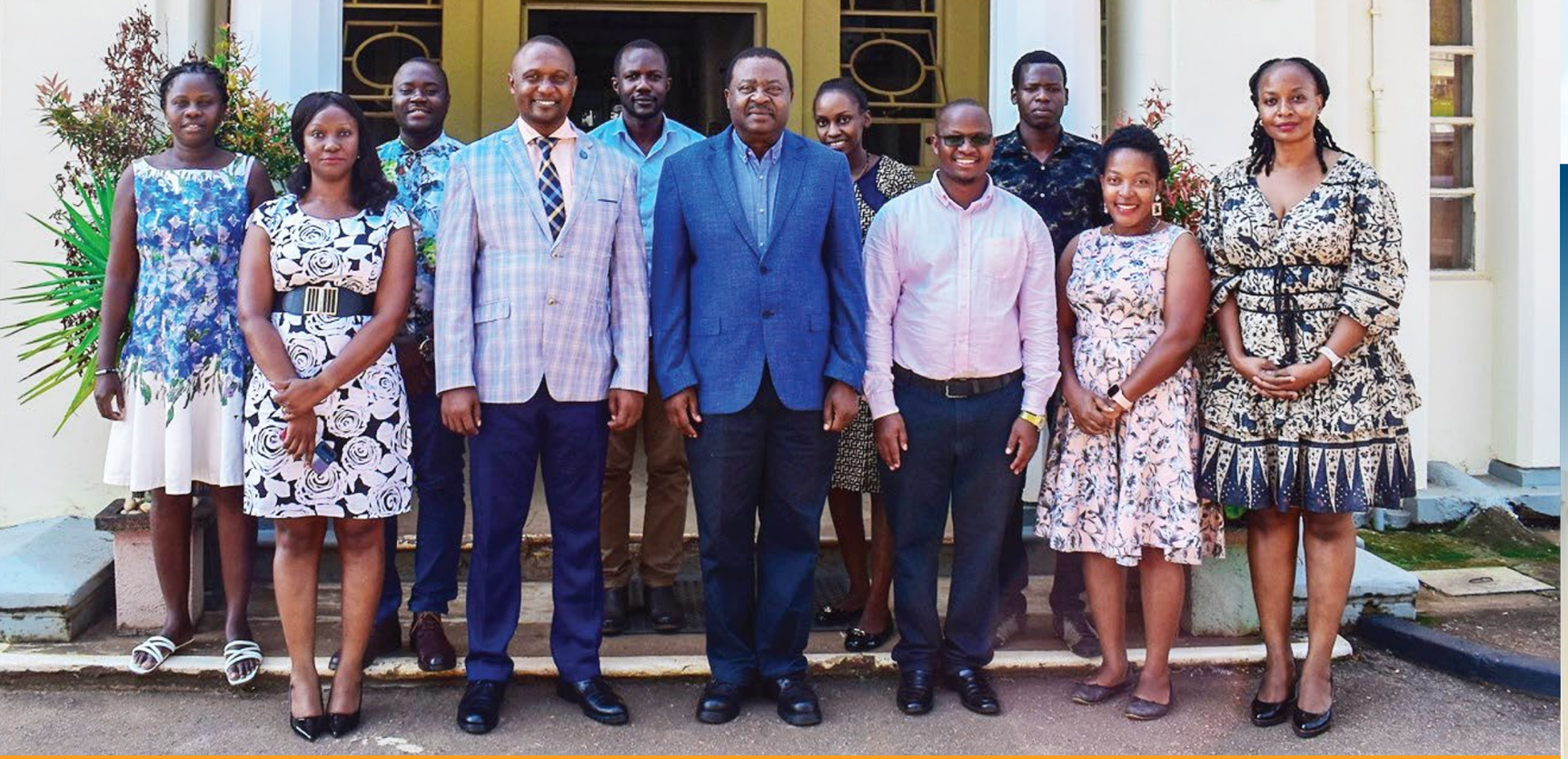

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MRC/UVRI and LSHTM Uganda Research Unit

ADVANCING VACCINE DEVELOPMENT:

Harnessing multiple antigenic epitopes for crimean-congo hemorrhagic fever in humans and animals

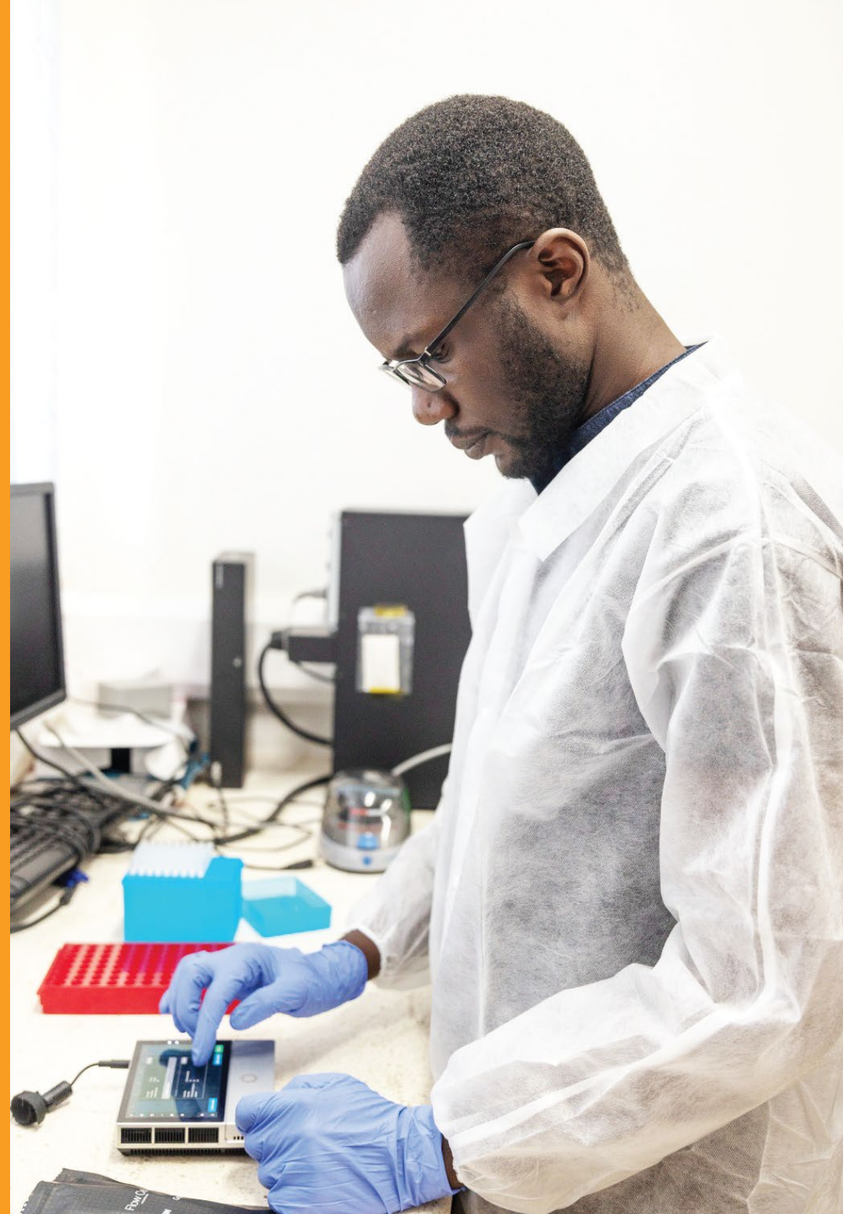
WHY CCHF STUDY

Crimean-Congo Hemorrhagic Fever (CCHF) is a zoonotic viral illness that affects humans and animals. About 3 billion people are at risk of CCHF infection globally, accounting for **10,000 to 15,000 infections annually,** 500 of which are fatal, with the greatest risk occurring in developing countries. With no licensed vaccine or antiviral drug available, CCHF virus poses a significant public health threat in endemic regions.

ABOUT THE STUDY

This study will develop a multivalent vaccine for CCHF. The vaccine will target both humans and animals by incorporating multiple antigenic epitopes from different CCHF virus genotypes circulating in Uganda. The study aims to enhance global health security efforts by strengthening preparedness and response capabilities for emerging infectious diseases.

Cognizant of global Sustainable Development Goal 3 which is Good Health and Wellbeing, the quadripartite agreement of the United Nations; regional goals of the Africa Unions Agenda 2063, and Uganda's Vision 2024, the study will leverage existing collaborative efforts to sustainably balance and optimize the health of humans, animals, plants, and the environment.



OUR SPECIFIC OBJECTIVES

- To design the CCHF immunogens and construct an adenovector CCHF vaccine candidate by conjugating the immunogens into an adenovector backbone.
- To conduct preclinical studies of the CCHF vaccine in mice and non-human primates (animal models).
- To translate knowledge products into formats that are accessible and useable by key stakeholders to enhance CCHF vaccine discovery and scale up.

PHASE ONE TIMELINE

Phase one of the study will run from January 2024 to December 2025.

OUR KEY ACTIVITIES

Laboratory Science

- ✓ Designing the Immunogens and construction of Adenovector CCHF Vaccine candidate.
- ✓ Preclinical Evaluation of the CCHF Adenovirus Vector-based Vaccine in animal models (mice and non-human primates).

Community Engagement

- ✓ CCHF project launch
- ✓ Online workshops and webinars
- ✓ Exhibition at National Science Week
- ✓ One Science Day in an elementary school.
- ✓ End of project dissemination event

OUR FUNDER

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OUR KEY COMMUNITIES

- Science Technology Innovation, Office of the President, Kampala, Uganda
- Ministry of Health, Kampala, Uganda
- Uganda National Council for Science and Technology
- National Drug Authority
- Uganda Registration Service Bureau
- Private Sector Foundation
- Ministry of Agriculture
- Ministry of Tourism
- Uganda Wildlife Authority
- Parliamentary Committee on Health
- Uganda Medical/Veterinary Associations
- Uganda Farmers Federation
- Cattle corridors

OUR IMPLEMENTING PARTNERS

- Uganda Virus Research Institute (UVRI), Entebbe, Uganda
- MRC/UVRI & LSHTM Uganda Research Unit, Entebbe, Uganda
- Makerere University College of Veterinary Medicine Animal Resources and Biosecurity, Kampala, Uganda
- Kenya Institute of Primate Research, Nairobi, Kenya
- Rocky Mountain Laboratories, Montana, USA