

MRC/UVRI and LSHTM Uganda Research Unit



Translating science
into global health impact

The Unit's mission is to conduct research to add knowledge and improve the control of infectious and non-communicable diseases (NCDs) in Uganda, Africa, and globally; contribute to the translation of research findings into policy and practice; and build capacity for research in Africa

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Uganda
Virus
Research
Institute

LONDON
SCHOOL OF
HYGIENE
& TROPICAL
MEDICINE



Medical Research Council (MRC)/Uganda Virus Research Institute (UVRI) & London School of Hygiene and Tropical Medicine (LSHTM) Uganda Research Unit

The Medical Research Council (MRC)/Uganda Virus Research Institute (UVRI) Uganda Research Unit was established in 1988 following a request from the Ugandan government to the British government for collaboration on researching HIV/AIDS. In 2005, the collaboration became a unit of the U.K. Medical Research Council until February 2018 when it was transferred to the London School of Hygiene and Tropical Medicine (LSHTM). The Unit is integrated into the UVRI but semi-autonomous. The Unit's initial mission to conduct research on HIV and related infections to facilitate their control in Uganda and elsewhere in Africa has been broadened to include other infections and NCDs with a focus on three areas: HIV and emerging infections; vaccines and immunity; and chronic diseases and cancer. The science is delivered through the following programs:

- HIV epidemiology and intervention
- Pathogen genomics, phenotype, and immunity
- Social aspects of health across the life course
- Immunomodulation and vaccine program
- Cancer program
- NCD phenotype program

IAVI has been working in partnership with the Unit on HIV-related research since 2001, initially with the Unit providing support to a Phase I HIV vaccine trial at UVRI. In 2003, this work developed into a formal collaboration focused on epidemiological studies and formative research to identify, engage, and characterize high-incidence populations.

Today, the MRC/UVRI & LSHTM Uganda Research Unit is a center of excellence in molecular virology

due to its capacity to conduct studies that enable understanding of viruses at a molecular level. Besides having an expert team of molecular virologists, the Unit is equipped with technology to clone or replicate viruses, such as the HIV virus, to propagate and understand the virus' characteristics. The Unit also trains other research teams on virus surveillance work.



National Reference COVID-19 laboratory at UVRI

Laboratory capacity

The MRC/UVRI and LSHTM Uganda Research Unit has fully equipped state-of-the-art laboratories where staff conduct a wide range of research activities in collaboration with scientific partners and supported by core funding from the MRC U.K., research grants, and other partners' funding.

Through the IAVI ADVANCE program, the Unit's immunology and virology laboratories have been equipped to carry out the following assays under the Vaccine Immunology Science and Technology for Africa (VISTA) program:

- Generation of virus tools for screening of broadly neutralizing antibodies
- Identification of viruses that are preferentially transmitted by using techniques that magnify the copies of the genetic material in vitro
- Looking at virus fitness and its correlation to disease progression and immune activation
- Assessing the inhibition of different viruses with samples from the relevant population – 'viral inhibition assays and epitope mapping'

The Unit's resources include fully equipped and staffed field stations, administrative offices, and a bioinformatics unit.

People

The key personnel at the MRC/UVRI and LSHTM Uganda Research Unit include Pontiano Kaleebu, Ph.D., director and overall principal investigator; Freddie Mukasa Kibengo, Ph.D., principal investigator; Yunia Mayanja, Ph.D., principal investigator; Jennifer Serwanga Ph.D., principal investigator; Eugene Ruza-gira, Ph.D., principal investigator. Others include data scientists, virologists, social scientists, a bioinformatician and an immunologist.

Community engagement

At all research sites, the Unit's community engagement work is guided by Good Participatory Practice, an international standard for biomedical HIV prevention trials that applies to both ongoing and planned HIV prevention research activities. The overall objective is to enhance mutual trust, interest, and meaningful partnerships between the research site and the community. The Unit has also secured long-standing support from community leaders, political leaders, and civil society and has developed well-trained committed community advisory boards (CABs), which actively participate in reviewing studies and creating linkages with the community and are members of Uganda's Cross-CAB Network. trainings, and engagement of a coastal CAB.

IAVI-supported activities

- Acute HIV infection
- Rapid identification and engagement of key populations
- Multi-site and multi-national research consortia (Lake Victoria Consortium for Health Research)
- Adolescent research
- Research preparedness: engaging communities and cohorts
- Long-term follow-up studies
- T-cell immunogen design and assessment
- B-cell immunogen design and assessment
- International training
- Investigator-initiated research
- University of Oxford EDCTP-funded 'GREAT' project
- Pilot acute/early infection study

Additional activities

- Vaccine trials for HIV, Rift Valley fever virus, Ebola virus, and tuberculosis
- Basic science studies of HIV superinfection, population differences in vaccine response
- Research on the changing HIV/AIDS epidemic
- Research on endemic, neglected, emerging and re-emerging infections
- Research to understand the risk factors and control of NCDs
- COVID-19 related activities such as genomic surveillance, vaccine development and trials, immune profiling, social impact, therapeutic trials

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