



Noguchi Memorial Institute for Medical Research

Department of Electron Microscopy and Histopathology



Our vision

To support and enhance an environment of research excellence where faculty are inspired and challenged to push the boundaries of knowledge creation

Mission statement

To explore the importance of the Electron Microscope as a diagnostic tool for improving the diagnosis of communicable diseases including existing and emerging infectious diseases

To provide histopathology services for collaborative research and graduate student training, and tissue processing for diagnosis of human and animal diseases

To continue to be a center of excellence in enteric virus research and harness this expertise in providing service and training opportunities in line with the Institute's mandate and that of the University in general



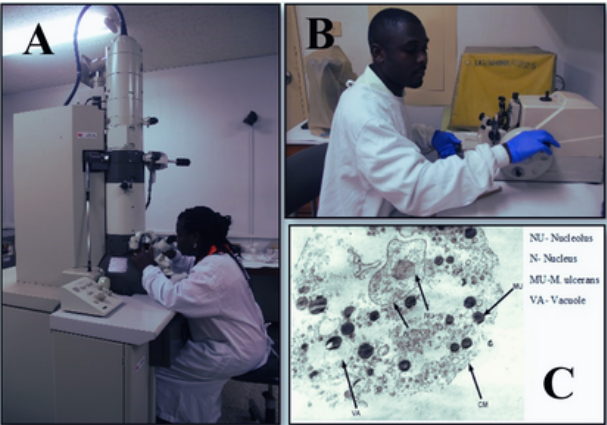
About the Department

- It is one of the nine scientific research departments within the NMIMR. Our research focuses on enteric viruses such as rotaviruses and noroviruses to generate evidence-based data that shapes local and international health policies.
- We are a founding member of the African Rotavirus Surveillance Network (ARSN), established in 2006 to support childhood diarrhoeal disease studies and rotavirus surveillance across Africa.
- It also hosts the WHO Regional Rotavirus Reference Laboratory (RRL) for West Africa, one of nine global RRLs which provides technical support, training, and characterization of rotaviruses and noroviruses for ARSN member countries.
- As part of the Global Paediatric Diarrhoea Surveillance (GPDS) Network, we use advanced diagnostic techniques to identify and characterize over 20 diarrheal pathogens.
- The Department houses the only functional Transmission Electron Microscope in West Africa, providing crucial support to national and regional institutions in histopathological and ultra-structural studies of plant and animal tissues, as well as morphological studies of pathogens.

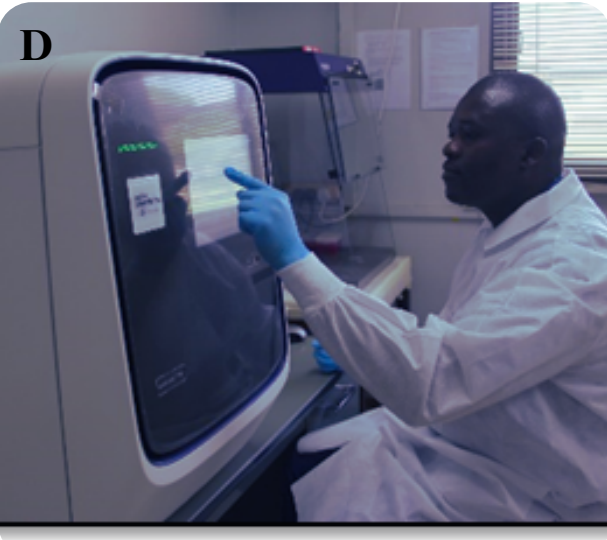
We have expertise in these areas:

- Ultramicrotomy and Transmission Electron Microscopy
- Histology
- Molecular epidemiology of viral agents of gastroenteritis in children
- Clinical trials for available enteric viral vaccines candidates
- Advocacy for rotavirus vaccine introduction in Africa
- Targeted gene sequencing
- Whole genome sequencing (Illumina MiSeq and Oxford Nanopore platforms)
- Mammalian cell culture of rotaviruses
- Viral vector vaccine research and development for enteric viruses using reverse genetics

Some of our specialised equipment



A: Transmission electron microscope
 B: Microtome; C: Electron micrograph of *M. ulcerans* infected *Acanthamoeba polyphaga* (Mag.: x 4000). (Source: EM and H Dept., NMIMR)



D. QuantStudio 7 Flex Real time PCR system
 • Runs customized enteric and acute febrile illness
 • Taqman microarray cards
 • Ssimultaneously detects over 20 pathogens for each syndrome.

Some of our routine work



A. Enzyme-Linked Immunosorbent Assay for Rotavirus
 B. Polyacrylamide gel electrophoresis (PAGE) screening for human and animal rotaviruses
 C. Conventional PCR for genotyping human and animal rotaviruses, noroviruses, adenoviruses, astroviruses

Our staff (2023-2024)

Research scientists

- Dr. Chantal Agbemabiese Head of Department
- Prof. George Armah Professor
- Dr. Susan Damanka Snr. Research Fellow
- Dr. Francis Dennis Snr. Research Fellow
- Dr. Belinda Lartey Research Fellow

Research staff

- Mr. Frederick Asamoah Principal Technician
- Ms. Sabina Kwofie Principal Research Asst.
- Mr. Henry Ofori Research Asst.
- Ms. Nana Aba Bentum Research Asst.
- Mr. Peter Teye Asst. Lab Technologist
- Mr. Victor Acquah Snr. Research Asst.
- Mr. Samuel Mingle Research Asst.
- Ms. Georgina Asamoah Research Asst.
- Mr. Collins Owusu-Ansah Research Asst.
- Mr. Amos Asindo Research Asst.
- Mr. Godson Okine Research Asst.
- William Briandt Snr. Driver

Administrative staff

- Ms. Edith Tetteh Principal Admin. Asst.

Contact Us

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