



Overview of the UCRC Molecular & Genomics Laboratory

Dr Dramane DIALLO, MSc, PhD

Head of Molecular and Genomics Laboratory

Organization

- ✓ Lead, Wet lab coordinator, and genomics and statistical data coordinator.
- ✓ Organized as separate molecular, mastermix room and genomics spaces to reduce cross-contamination.
- ✓ Collaboration between internal and external scientists including immunologists, microbiologists, neurologists, entomologists, veterinarians, and agricultural scientists.

Resources

- DNA/RNA Extraction instruments



Qiacube Connect DNA/RNA extraction system



EZ2 DNA/RNA extraction system

Resources

- PCR/qPCR instruments



AB7500 fast



Veriti Pro



MiniAmp



**Qiaquant 96
5plex**



**LightCycler 480
ii instruments**

Resources

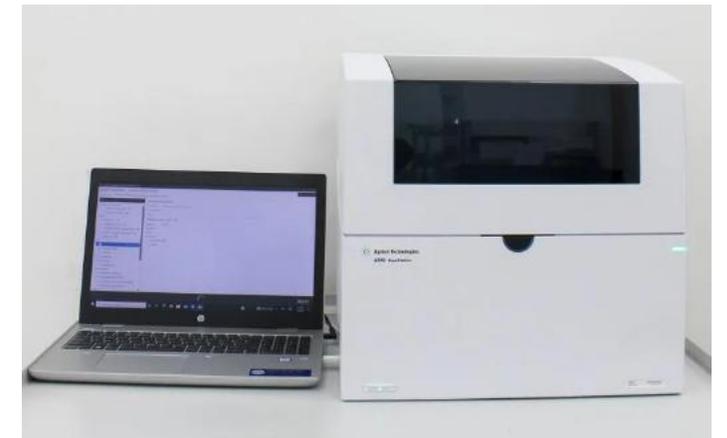
- Nucleic Acids Quality Controls



Nanodrop OneC



**Qubit 4
Fluorometer**



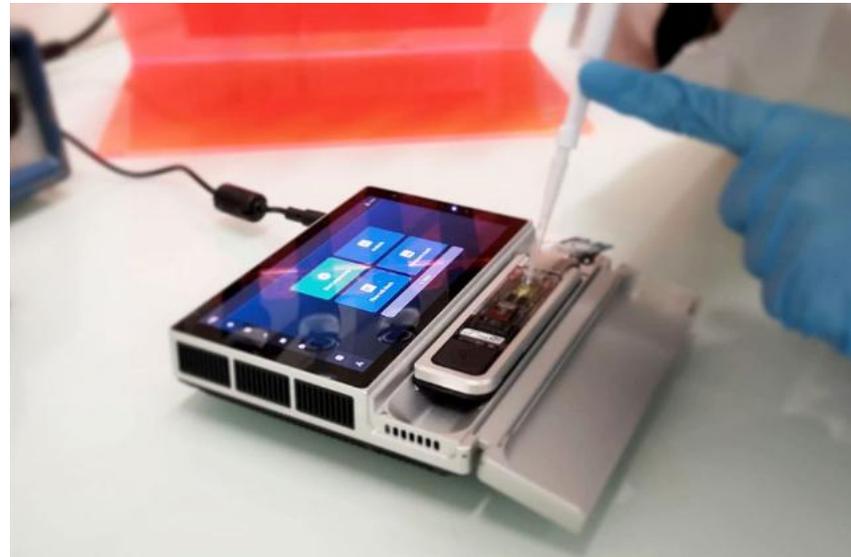
Agilent TapeStation 4200

Resources

- Sequencing Platforms



AB3500 genetic analyzer



Minion MK1C



Illumina NextSeq1000

Ongoing Studies

- Measles virus project
- D43 UCRC-GAPP
- Clinical and Biological characterization of infectious disease
- *Plasmodium falciparum* drug resistant genes profiling.
- Sequencing based mosquito species identification.
- Development of a molecular based technics for multiplex identification and viral load.

Perspective

- Next steps of VirCapSeq: Diagnostic tool development + bioinformatics capacity for in silico drug design.
- Certification of the Laboratory
- Bacterial genomics and AMR research implementation
- Microbiome vs infectious disease research

Challenges

- Specific Training opportunities: Primers/Probes designing, sequencing technics development, bioinformatics, Scientific writing...
- Difficulties to fund preliminary data production for grant application.

**Thanks
For listening**