

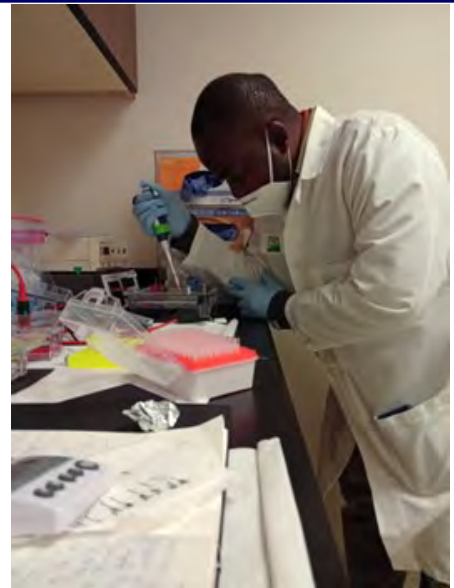
Livestock Production

Training Summary: It was very exciting to explore the practical application of molecular and cell biology concepts in manipulating ticks and tick-borne parasites like Babesia, in order to further understand their biology and to come up with solutions in controlling these tick-borne parasites. Molecular techniques like DNA extraction and the Polymerase Chain Reaction (PCR) were done in order to study the genetics of the parasites, and gene cloning was done in order to study the gene expression of the parasites and how they interact with their hosts. Parasite-host interaction understanding was further enhanced by propagating these parasites in cell cultures, and the resultant passaging process which may give rise to 'weaker' strains. Weaker parasite strains can be candidates for vaccine development.

The skills and understanding gained is important in the diagnostics of the parasites, vaccine development for the parasites, and carrying out research work in parasitology. Tick dissection and cell culture skills are also important in the understanding and handling of biologicals during vaccine production. The cell culture of tick-borne parasites and the membrane (artificial) feeding system for ticks are important as the world is moving away from the use of animal models for experiments and thus preventing cruelty to animals. Cell culture skills are also important for the production of biologicals, like antigens, that are used as diagnostics test work.

What's Next?

Using the experience, skills, knowledge and gained during the training, I hope to produce better performing tick-borne diseases vaccines. As well as, be in a better position to perform and trouble shoot molecular diagnostic work and initiate concepts and undertake research work for ticks and tick-borne parasites.



Lenin Jomane - Zimbabwe

Hosted by Washington State University