



## PRESS RELEASE

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# UB PROF SUNUNGUKO WATA MPOLOKA ON ATTACHMENT AT UPENN FOR VACCINE DEVELOPMENT

A University of Botswana lecturer in the Department of Biological Sciences, Professor Sununguko Wata Mpoloka, is on a three-month learning attachment on vaccine development at the University of Pennsylvania in the United States of America. While on attachment, Professor Mpoloka will further his research on vaccine development for Foot and Mouth Disease (FMD) in cattle.

Professor Mpoloka's attachment is part of the outcome of the Vice Chancellor, Professor David Norris's engagement with institutions of higher learning globally. It also follows that of Dr Daniel Loeto, a lecturer in the Faculty of Science, who returned from a three-month attachment at Edison Biotechnology Institute (EBI) in January.

Professor Mpoloka is an Associate Professor of Molecular Biology in the Faculty of Science. He possesses a BSc (Biology and Environmental Science), MSc Plant Molecular Biology and a PhD Molecular and Cell Biology. His research area includes Population Genetics, Vaccine Development and DNA damage and repair.

He is currently conducting research for vaccine development for lumpy skin disease in cattle and is supervising a PhD student from Botswana Institute of Technology Research and Innovation (BITRI), Kefentse Tumed, working on developing a rapid diagnostic test kit for detection of lumpy skin disease in cattle. Professor Mpoloka is also supervising another PhD candidate from the Botswana Vaccine Institute (BVI) Eliot Mpolokang Fana whose research interest is on FMD.

Consequently, the three-month UPenn attachment will afford Professor Mpoloka an opportunity to acquire more skills in vaccine production and technologies. UPenn has a long-standing relationship with the government of Botswana and UB, through which expertise is mutually shared in areas of medicine, research and capacity building.

Professor Mpoloka will be under the expertise of Dr Drew Weissman who is the Director of the Vaccine Research, infectious Diseases, and Institute of RNA Innovation at UPenn. Dr Weissman is acclaimed for production of COVID-19 vaccines. Together with his team, he invented a modified technology for Pfizer-BioNtech mRNA and Moderna's vaccine. Currently they are working on a pan-coronavirus vaccine to stop future corona virus epidemics among other potentially lifesaving vaccines.

Professor Mpoloka said in an interview with UB News that his intention was to understand the vaccine production pipeline. His aim is to be skilled enough to develop technology for industry use as well as capacity building which will contribute to the reduction of Botswana's import bill on cattle vaccines. In addition, he said the opportunity would further result in skills transfer to students so that ultimately the university would be able to attract more funding and collaboration with industry.

As for Dr Loeto who just returned from his attachment, his research is on steroid production from Fungi Isolated from Hypersaline Environment for Biotechnological Applications. During his stay at EBI Dr Loeto visited the Natural Products Lab under Dr Shiyong Wu. EBI is part of Ohio University in Athens Ohio and Dr Loeto had the opportunity to learn about the latest cutting-edge technology in natural products research.

The technologies include genome data mining prior to sampling, natural product discovery methods, and genetic manipulations for the expression of desired products, including silent genes. The visit to Ohio, said Dr Loeto, would greatly benefit his research at the university of Botswana. To that end, he added that it would make his research a lot more purpose-driven to unearth novel natural products in Botswana.