NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

Office of the
Deputy Vice-Chancellor: Academic

Professorial Inaugural Lecture

Prof Percy Maruwa Chimwamurombe

Topic: The Microbiology-Indigenous Knowledge Nexus in Climate Change Coping Strategies in Namibia

Abstract

The world, including Namibia, is grappling with the aggressive effects of climate change which impacts food production. However, innate and acquired climate change coping mechanisms have been around for a long time. The relationship between endophytic and rhizospheric bacteria in assisting a dry-adapted legume called Tylosema esculentum (marama bean), as contextualised to Namibia in using applications of Indigenous Tradional Knowledge, (ITK), is a tropical research area that will help researchers to better understand plant coping mechanisms to heat and drought stress in the Namibian agro-ecological setting. The nexus between indigenous knowledge and microbiology, albeit not easy to conceptualize at face value, has led to many interesting discoveries worldwide. This nexus was used to discover bacteria involved in arid climate adaption by the marama bean, which grows naturally in the Omaheke and Otjozondjupa regions of Namibia. The marama bean produces edible protein-rich seeds, even though the soil in these regions is low in nitrogen and phosphorous. Many plant growth-promoting bacteria (PGB) have been reported in this marama bean system and are now being tested in inoculant technology (biofertilizer) development for deployment in aridity-prone regions to support Namibia's food security initiatives.

About the Speaker

Percy Maruwa Chimwamurombe is a Professor in the Biological Sciences and the Deputy Head of the Department: Natural and Applied Sciences at the Namibia University of Science and Technology (NUST). From 2013 to 2017 he was an Associate Professor: Microbiology and Molecular Biology, at the University of Namibia (UNAM).

He obtained his BSc (Hon) in Biochemistry (1994) and the MSc in Biotechnology (1996) from the University of Zimbabwe in collaboration with Wageningen Agricultural University in The Netherlands. His PhD in Genetics (Plant Biotechnology) from the University of Pretoria (RSA) was obtained in 2002. He was a Post-Doctoral Research Fellow at the University of Pretoria where he participated in the research project: 'Genetic engineering maize for resistance to pathogenic Fusarium verticillioides.

- **Awards:** He was the recipient of the prestigious Georg Forster Research Fellowship for experienced researchers and a Fellow of the Zimbabwe Academy of Sciences, among others.
- **Research interest:** His research interests include the domestication and cultivation of wild indigenous plants; the genetics of biodiversity conservation, utilisation and management; gene cloning and heterologous gene expression systems; genomics, transcriptomics, proteomics and bioinformatics; the genetic engineering of plants for enhanced value and durable disease resistance, as well as the design and development of disease diagnosis techniques to mention a few.
- **Membership:** He currently serves as an active member of several scientific bodies, including the Interim Bio-prospecting Council of Namibia, the African Crop Science Society, the Southern Africa Society of Microbiology, as well as the Royal Society for Biology, among others. He has successfully supervised 9 PhD students, 21 MSc students and 85 BSc Honors projects.
- **Published:** He has published over 90 referred journal articles and conference proceedings and is a reviewer for 10 international scientific journals and organisations and the author of 15 technical and consultancy reports.

Date: Thursday, 27 September 2018
Time: 18:00
Venue: Auditorium 1

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