



Monitoring tree growth in permanent sample plots

...as researchers and students seek to understand the forest dynamics in the Namibian *Baikiaea Pterocarpus* woodland

Fifteen years ago Dr Vera De Cauwer, a NUST Senior Lecturer in the Department of Agriculture and Natural Resources Sciences (DANRS), and a group of NUST students established three permanent sample plots (PSPs) in the Hamoye State Forest (HSF) and the Kanovlei area. A team from NUST recently returned to the HSF to collect data from one of the permanent plots as part of the SavannaCap Project led by the University of Edinburgh.

Tree growth is a crucial biological parameter of forests and consequently of high significance as a forest condition indicator for long-term monitoring. "The PSPs were established to monitor the growth of trees and to attain an understanding of the status of the forest in the north-eastern part of Namibia, given the challenges of fire, illegal logging and other additional disturbances," Dr De Cauwer said. The study will allow the development of growth models for hardwood species such as *Pterocarpus angolensis* (Kiaat), *Burkea africana* (Sandsering), *Terminalia sericea* (Silver cluster-leaf), and *Guibourtia coleosperma* (False mopane) in Namibian conditions. "The data will be used to understand the population dynamics and species composition of dry woodland savannah, in Namibia," explained NUST's

Head of DANRS, Dr Jonathan Kamwi. It was a rather difficult task to locate trees tagged in 2006 since some trees have died and most tags were not present anymore. "All trees tagged in 2006 were enumerated and retagged, to compare with the new data collected. This will help to determine mortality of different tree species in the plot," a Natural Resources Management Honours student, Job Tjikongo elaborated. In order to deal with the challenges experienced, regular monitoring of tags and plot boundary markers in the PSP should be done. To prevent the illegal harvesting of trees, the authorities should strengthen internal capacity to conduct regular patrols and law enforcement operations. Furthermore, forestry personnel should be equipped with fire engines to fight wildfires.



Josef Ndjimba, a Bachelor of Natural Resources Management Honours student tagging a tree.

NUST hosts Bioinformatics course



Front, left to right: Dr Lamech Mwapagha, Adalberto Sepolo, Patience Kamesiepo, Tobias Tuwilika, Simeon Ambuga, Filemon Shindume. Back, left to right: Levi Ikechukwu Eze, Anastasia Ekanjo, Loide Nangolo, Linda Ratjama, Veronguavi Kaura, Faith Kavishe, Marthinus Masoya, Elise Ngalipo, Refilwe Mmopieng.

The Department of Natural and Applied Sciences (DNAS) from NUST hosted an online class on the Introduction to Bioinformatics (IBT) courtesy of H3ABioNet. H3ABioNet is a Pan African Bioinformatics Network established to develop bioinformatics capacity in Africa to enable genomics data analysis by researchers across the continent.

"The aim of this course is to provide participants with an introduction to the field of bioinformatics. The focus is on important bioinformatics tools and the facilitation of access to informatics infrastructure by developing or providing access to pipelines and tools for human, microbiome and pathogen genomic data analysis," NUST Senior Lecturer in DNAS, Dr Lamech Mwapagha said. The training event was attended by participants with backgrounds in molecular biology, biochemistry or genetics. "It was a very informative course and so timely for me as I am currently analysing

sequence data," explained a NUST PhD Candidate in Microbial Ecology, Elise Ngalipo. Among the topics covered during the course were the Introduction to Databases and Resources; Linux; Genomics; Sequence Alignment Theory and Application; Multiple Sequence Alignment; Molecular Evolution and Phylogenetics. "This course definitely opened my eyes to how broad the field of bioinformatics is. I am quite confident in my ability to utilise various online tools to analyse and interpret genetic data," NUST Honours student in Biotechnology, Patience Kamesiepo stated.

Prof Musiyarira Inaugurated as President of the Society of Mining Professors

Prof Harmony Musiyarira, Associate Dean for Research and Innovation in the Faculty of Engineering from NUST, was officially inaugurated as President of the Society of Mining Professors (SOMP), at a ceremony held in Medellin, Antioquia, Colombia. His election signals the global minerals education fraternity's growing confidence in Namibia as a key destination on the African continent for education in the field.

NUST will host the next SOMP international conference in 2022. This event will draw participants from across the globe, and promises to be a landmark event for minerals education in Africa. Prof Musiyarira described his ascendency to the presidency as a clear sign of the growing importance and relevance of NUST on the minerals education landscape, and a collective recognition by the international community. The COVID-19 pandemic had presented a unique set of challenges to the mining industry. Prof Musiyarira therefore called for the need for higher education institutions to adopt new forms of teaching and learning to keep up with international trends,

particularly in engineering education. "I will commit my tenure to broaden NUST's academic network and access to leading talent while creating a vibrant platform for enhanced industry engagement and research output," he said. The Society's rich history and international scope will earn NUST a global outlook aligned with the institution's internationalisation. Formed in 1990, SOMP is a vibrant Society representing the global academic community working towards a significant contribution to the future of the minerals' discipline. Its primary goal is to guarantee the scientific, technical, academic, and professional knowledge required to ensure a sustainable supply of minerals for humankind.



Prof Harmony Musiyarira delivering his Acceptance Address during his inauguration as the President of the Society of Mining Professors.