

# NATURE CONSERVATION MASTER'S RESEARCH IN THE SPOTLIGHT



## MUT's Nature Conservation graduates sink their teeth into research

**M**UT's Master of Nature Conservation graduates are shining a light on the value of research and uncovering crucial new knowledge in this very important sector. Conducting research during a pandemic could not have been easy for the thirteen researchers who graduated at MUT's virtual ceremony on 19 June 2021. The graduates explored a range of research topics whose findings are set to contribute to local knowledge and decision-making. Among the research undertaken by the MUT Class of 2021 were studies on climate change, water scarcity and a review of South Africa's conservation laws. In this publication we share a synopsis of our researchers who are putting our institution in a great position to grow its postgraduate studies.

## A review of conservation laws in the Republic of South Africa – Vanrooi Moreki

**T**he project aimed to review the existing legislation and policies pertaining to conservation of ecosystems and species in South Africa, in order to assess the data published in South Africa on its ecosystem and species threat and loss. In so doing, it attempted to determine whether the purpose and goal of the policies are being met, as well as the effectiveness of the policies and procedures in conservation of ecosystems and species. The intended objectives present an overview of environmental pressures on South African biodiversity and further give a clear description on the regulatory enforcement procedures.



## The effect of climate change on the eco-physiological functioning of the Blue Carbon mangrove species, *Avicennia marina* on the Umgeni River Estuary

– Ganesan Govender

**T**he effects of climate change pose severe risks to coastal environments. The most striking of these is sea level rise, which threatens the welfare of coastal inhabitants, ecosystems and infrastructure and also magnifies the impacts of coastal storms. Efforts to curtail the impacts of climate change have thus become topical. Mangrove forests seemingly have a major role to play in negating the effects of climate change. The current study sought to provide insight into the role that mangrove forests play in reducing the effects of climate change and provides management strategies to successfully conserve these valuable species. Mangrove forests have profound adaptations that allow them to significantly reduce the planet's atmospheric carbon content

as displayed by the high CO<sub>2</sub> assimilation in this investigation by the blue carbon species, *Avicennia marina*. They also display prolific mechanical resilience, thereby protecting coastlines. However, an evaluation of mangrove ecology at the Umgeni River estuary suggested that mangrove species have migrated upstream over the past 20 years. Sea level rise will result in the loss of these species as they will not be able to adapt to the change in conditions. This research project proposes the effective management and propagation of these species, to ensure the maintenance of the integrity of this important ecosystem in Durban as a model that may be adapted throughout the world.