

A new era in biodiversity science, training and conservation

"The Chair in Biodiversity and Change in the Vhembe Biosphere Reserve is a vibrant hub for biodiversity science, training and conservation application in the Southern African Development Community – a body of established and emerging researchers, postgraduate and postdoctoral candidates."

Prof Peter John Taylor - Head

The University of Venda is the proud host of the Chair in Biodiversity Value and Change in the Vhembe Biosphere Reserve in Limpopo.

The chair, supported by the South African National Research Foundation and the Department of Science and Technology and co-hosted by the Centre for Invasion Biology at the University of Stellenbosch, is working closely with UNESCO's Vhembe Biosphere Reserve and the Limpopo Department of Economic Development, Environment and Tourism.

The result? Ensuring that biodiversity and its ecosystem services are adequately mapped and integrated into conservation planning at local and provincial levels.

Capacity development – the name of the game

The chair has an ambitious plan to train at least two postdoctoral candidates, nine PhDs, eleven MSc and ten honours students in the next five years.

Bursaries of R200 000, R100 000, R70 000 and R30 000 are provided for postdoctoral, PhD, MSc and honours students respectively.

An annual biodiversity academic dialogue will target previously disadvantaged graduates and school-leavers, providing them with excellent experiential learning in a stimulating natural environment with world class academics as trainers.

This initiative is creating a passion among young black students to pursue a career in conservation ecology. It will provide the necessary research, field, geography information system and statistical skills training needed by the postgraduate cohort studying under the chair.

If you believe we are doing the right thing - talk to us!

Whether you believe you are a prospective candidate, you could support this ground-breaking initiative or are simply burning to know more, you can reach us on -

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Towards a vibrant hub for biodiversity science, training and conservation in the Southern African Development Community



University of Venda

Chair in Biodiversity and Change



creating future leaders

What are the chair's activities?

Activities are organised across four major themes –

- Conservation ecology and practice
- Ecosystem services and livelihoods
- Invasion biology
- Climate change

Successful candidates can join an active research team and complement a growing body of exciting ecological research, centred in the Soutpansberg Mountains, a recognised Centre of Endemism and a hotspot of plant and animal diversity.

Activities of the chair are divided between research and community engagement, conservation action and capacity building.

All of this is happening in the newly proclaimed UNESCO Vhembe Biosphere Reserve in the north of South Africa's Limpopo Province.



Research and community engagement – benefitting communities

Species-rich native communities of plants and animals are critical to maintain natural and human-dominated ecosystems. Biodiversity is an important indicator of ecosystem change and a provider of ecosystem services. Due to marked environmental gradients associated with the Soutpansberg, very high spatial heterogeneity occurs in the Vhembe Biosphere Reserve, creating an ideal natural laboratory – an 'evolution mountain' so to speak.

Among others, the chair will test species diversity and the interplay between productivity and disturbance. This will allow a better understanding of the feedback loops between vegetation properties, biodiversity and associated ecosystem services, as influenced by management, landscape attributes, land use mosaics and local climate.

In turn this will allow us to better predict the effects of climate change on biodiversity as well as identify optimal human land use options. This is critical for mitigation and adaptation measures to offset climate change impacts.

The chair will investigate selected plant and animal communities like invasive plants, ants, spiders, reptiles, birds, bats, rodents and primates to test their sensitivity to environmental, landscape and land use attributes - hence their utility as indicator species.



We will investigate the role of biodiversity as ecosystem providers, like the pollination services of arthropods in subtropical fruit orchards and subsistence vegetable gardens. We will also research the role of natural avian and bat predators in controlling pest insects in subtropical fruit orchards

All of this will require intensive community engagement to ensure communication with communities and stakeholders - **this is how we will ensure that communities benefit from this vibrant unit.**

Tomorrow's survival - conservation and land-use planning

Adequate mapping of ecosystem services will ensure the wise use of natural resources and effective environmental impact assessment of proposed developments - ultimately an effective environmental management plan for the Vhembe Biosphere Reserve.

This is critical, given the severely water-stressed nature of the region and the imminent threat of prospecting and mining of the massive high-quality coal deposits in the Limpopo Valley.

The chair will map core and buffer areas of the reserve and do a stakeholder analysis as a matter of urgency. It will establish and maintain a geographic information system research platform at the University of Venda. Information will be available to the reserve committee and the Limpopo Department of Economic Development, Environment and Tourism. They, in turn, will house relevant spatial databases and facilitate their use as spatial conservation planning tools. All of this will involve co-supervised MSC projects to conduct ecosystem services evaluations of selected Limpopo protected areas.

