



# NITheCS

National Institute for  
Theoretical and Computational Sciences

## COLLOQUIUM

# Sustainability of Southern African Ecosystems under Global Change

Prof Guy Midgley (Stellenbosch University)

**DATE:** Monday, 11 November 2024 | 16h00–17h00 SAST

**VENUES:**

- Neelsie Cinema, Stellenbosch University
- Online

--- A recording of the talk will be published on the NITheCS YouTube channel afterwards ---

### ABSTRACT

In response to changing global weather patterns, Prof Guy F. Midgley will discuss a new open-access book about the sustainability of marine and terrestrial ecosystems in southern Africa, '*Sustainability of Southern African Ecosystems under Global Change*'.

The book provides a synthesis of the research program, Science Partnerships for the Adaptation to Complex Earth System Processes (SPACES II, 2018-2022). It addresses the scientific, social, and economic issues related to climate change, its potential impacts on the various ecosystems, adaptations, and management interventions to enhance systems resilience in Southern Africa.

Written by numerous scientists from African states and Germany, the book summarises the latest research findings, which are of great relevance for a better understanding of climate change impacts, adaptations, and vulnerabilities as well as for developing management options and policy options to reduce the associated risks. This is crucial considering that the projected African population increase is exceptional. Furthermore, climate change is assumed to hit southern Africa extremely hard with a significant increase in extreme events and the frequency of severe droughts, heat waves, and flooding. Southern Africa hosts a high variety of ecosystems, which belongs to important biodiversity hotspots for unique flora and fauna. The surrounding oceans form, in turn, a bottleneck within the ocean's global thermohaline circulation, act as a still poorly understood carbon sink and source and play an important role for fisheries. Considering these aspects, the book is an important interdisciplinary contribution to scientific literature.

### BIOGRAPHY



Prof Guy F. Midgley has focused his career on arid ecosystems and climate change, particularly in southern Africa. Starting as an assistant researcher at the Botanical Research Institute (now SANBI) in 1983, he became a professor at Stellenbosch University (SU) in 2014. Since 2022, he has directed SU's School for Climate Studies and served as Interim Director of the Centre for Invasion Biology. Midgley holds an NRF A-rating in Plant Sciences (2017–2023) and Earth Sciences (2023–present) and has received honours like the Marloth Medal and a Senior Research Award from the German Humboldt Foundation. In 2022, Thomson Reuters listed him among the top 200 global climate change influencers.

Midgley has been instrumental in international policy and scientific processes. He served as a coordinating lead author for several IPCC assessments (2000–2021) and the IPBES Global and Land Reports. He co-chaired the 2009 CBD Climate Change and Biodiversity Technical Expert Report with Professor Bob Watson and has contributed to UNFCCC and CBD policy development since the early 2000s.

In South Africa, Midgley has been a key figure in climate science and policy. As chair of the Global Change Science Committee in the 1990s and 2000s, he increased the national research budget for global change from R10 million to over R100 million. He was also part of SA's UNFCCC negotiating team from 2005 to 2014 and played a role in SANBI becoming a National Implementing Entity for the UNFCCC's Climate Change Adaptation Fund.

Currently, he leads research on climate impacts in southern African ecosystems and promotes interdisciplinary approaches to climate studies at SU. He has supervised many MSc and PhD students, many of whom now hold senior positions in government, academia, and NGOs.



**REGISTER:** <https://bit.ly/4hIW480>