

COLLOQUIUM: Simple Threads, Chaotic Weaves: Unravelling the Complex Tapestry of Nature

Dr Sandra MacFadyen (Vrije Universiteit Amsterdam &
Stellenbosch University)

Monday, 23 October 2023 | 16h00 – 17h00 SAST

Venue: in person* and online

* *Neelsie Cinema, Stellenbosch University*

--- Cheese and wine will be served at the venue ---

ABSTRACT

As global challenges like climate change, land use change, invasive alien species, and the over-exploitation of natural resources intensify, biodiversity conservation faces unprecedented threats. Amidst this global crisis, protected areas stand as refuges for biodiversity, offering sanctuaries for a diverse range of species. Moreover, protected areas bolster natural habitats against human disturbances and support crucial ecological functions essential for the overall health of ecosystems. However, the intricate nature of ecosystems, marked by their adaptability and interwoven environmental interactions across multiple scales, complicates our understanding. In this colloquium, I explore the subtle dynamics of ecosystem patterns and processes, aiming to clarify the forces that shape the creation, maintenance, and transformation of biodiversity against the backdrop of projected global biodiversity declines.

BIOGRAPHY

Sandra MacFadyen earned a joint PhD degree from the departments of Environmental Geography at Vrije Universiteit Amsterdam in the Netherlands and Botany and Zoology at Stellenbosch University in South Africa. In 2019, Sandra joined the Department of Mathematical Sciences as a post-doctoral research fellow in the [Mathematical Bioscience Hub](#) at Stellenbosch. She currently serves as a Principal Investigator for the NITheCS research programme on [Advancing Biodiversity Informatics and Ecological Modelling](#). Additionally, she is a member of the EU Horizon B-cubed project team, Biodiversity Building Blocks for Policy. With nearly 25 years of experience working and living in Kruger National Park, her research centres on macroscale ecosystem and landscape dynamics with an emphasis on the application of spatiotemporal statistics for biodiversity monitoring. Based in Skukuza, Sandra collaborates closely with the [South African National Parks' Savanna Research Unit](#) and is a strong advocate for interdisciplinary approaches that address crucial ecological questions and work towards collective biodiversity conservation goals.



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