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COLLOQUIUM

Fighting Rhino Poaching: Enforcement or Dehorning?

Dr Timothy Kuiper (Nelson Mandela University)

DATE: Monday, 7 July 2025 | 16h00–17h00 SAST

VENUES:
- Neelsie Cinema, Stellenbosch University
- Room P215, 2nd Floor, Physics Building, University of the Witwatersrand
- Online

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

ABSTRACT

Across 11 southern African reserves safeguarding the world's largest rhino population, we recorded the poaching of 1,985 rhinos between 2017 and 2023 – an average of ~6.5% of the population per year – despite approximately US$ 74-million being spent on anti-poaching efforts. Most of this investment was directed toward reactive law enforcement measures, including ranger patrols, tracking dogs, access control, and surveillance cameras, which collectively led to over 700 poacher arrests. However, statistical analysis revealed no evidence that these interventions significantly reduced poaching, likely due to persistent drivers such as horn demand, wealth inequality, entrenched criminal syndicates, and corruption.

In contrast, reducing poacher incentives through dehorning (conducted on 2,284 rhinos across eight reserves) resulted in a sharp and substantial (~78%) decline in poaching, despite accounting for just 1.2% of the total budget. Some poaching of dehorned rhinos persisted, likely due to the targeting of horn stumps and regrowth, underscoring the importance of regular dehorning in combination with strategic law enforcement.

BIOGRAPHY

Dr Timothy Kuiper is an African biodiversity scientist who leads solutions-focused research on human-nature relationships. Since May 2024, he has served as a Senior Lecturer in Biodiversity and Statistics at Nelson Mandela University, South Africa. In this role, he teaches postgraduate courses in statistics and research methods, supervises MSc and PhD students, and leads interdisciplinary research into human–nature interactions across Africa.

His work integrates a range of methods – from statistical and mathematical modelling to stakeholder interviews – to better understand the drivers of biodiversity loss and support the development of African-led conservation solutions. While his core expertise lies in quantitative modelling, Dr Kuiper actively collaborates with conservation practitioners and policy makers to ensure that his research addresses real-world challenges and contributes to meaningful, actionable outcomes.

His vision is to exemplify and nurture African excellence and leadership in interdisciplinary conservation science through both research and teaching.

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