

SEMINAR

Underwater Perspectives: Using animal-borne cameras to study penguin foraging behaviour and ecosystem processes



Professor Pierre Pistorius

Penguins are among the most charismatic species inhabiting the Southern Ocean. They often constitute valuable sentinels of environmental changes and are also important consumers contributing to ecosystem functioning. Relatively easy to study on land, their behaviour at sea has until quite recently remained poorly understood.

Enabled through technological developments in both tracking devices and video cameras that can be deployed on penguins, we have been able to assess important aspects of penguin biology in relation to specific ecological contexts. I will start this talk by providing a broad overview of biologging (the use of electronic instruments deployed on animals) developments that have enabled us to remotely study marine wildlife before providing a history of our research findings obtained through the deployment of small video cameras on penguins. This work has allowed us to observe how different penguin species perceive and interact with the underwater environment across diverse oceanic regions. It has also underscored their crucial role in ecosystem functioning and the importance of incorporating their ecology into ecosystem-based management strategies.

Professor Pierre Pistorius is a globally recognised marine ecologist and academic based at Nelson Mandela University. As Head and Founder of the Marine Apex Predator Research Unit (MAPRU) within the university's Institute for Coastal and Marine Research, he leads cutting-edge research into marine top predators — including seabirds, seals and cetaceans. His work uses marine predators as indicators of ocean health and as tools for public engagement on marine biodiversity issues. His work spans a broad geographic range, combining long-term demographic monitoring, biologging and spatial ecology. Beyond research outputs (having authored on over 150 peer-reviewed publications), he has played a significant role in postgraduate training, having supervised numerous MSc and PhD candidates and fostering interdisciplinary capacity in marine science.



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**B Block, Conference Hall, Ocean Sciences Campus,
Nelson Mandela University**



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