



AI for Ecology: Exploring the power of Deep Learning for Wildlife Monitoring

Dr Lorène Jeantet (AIMS) & Joshua Salako (AIMS)

Monday, 5 October 2026 | 16h00–17h00 SAST

HOW TO ATTEND:

In person (main venue):

- Road House Cinema
(Neelsie)
Stellenbosch University

Watch at satellite venues:

- MITP Boardroom P215,
2nd Floor Physics Building
University of the Witwatersrand
- Seminar Room K310
Physics Building G5
North-West University

Online (live stream)

--- Please note, a recording of the lecture will be published on the NITheCS YouTube channel following the event ---

ABSTRACT

Biodiversity is declining at an unprecedented rate, making effective wildlife monitoring more critical than ever to inform conservation efforts. Advances in technology, including the miniaturisation of sensors and increased storage capacity, now enable the long-term collection of high-resolution data from species that are otherwise difficult to study in the wild. However, these large and complex datasets also present major analytical challenges. Automating data processing has thus become increasingly important in ecology, and deep learning offers powerful tools to address these challenges.

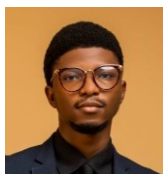
In this joint presentation, Dr Jeantet will present some of her latest research projects applying deep learning to long-term wildlife monitoring data, including acoustic recordings, video, and biologging time series.

Mr Salako will present his recent work combining transfer learning, image preprocessing, and a hybrid active learning framework to efficiently annotate camera-trap images and train models to detect Western Leopard Toads. His work uses these models to evaluate toad use of wildlife crossing tunnels and assess the effectiveness of conservation interventions. Together, they will demonstrate how AI-based approaches can transform large-scale monitoring data into meaningful ecological information, improve our understanding of endangered species, and contribute to more scalable and effective approaches to wildlife monitoring and conservation.

SPEAKER BIOGRAPHIES



Dr Lorène Jeantet is a Researcher at AIMS, where she leads the Machine Learning for Ecology research group. She completed a PhD at the French National Centre for Scientific Research (CNRS). In 2020, she received the L'Oréal–UNESCO For Women in Science French Young Talent Award. Her research currently focuses on using machine learning to analyse large-scale ecological monitoring data, including acoustic recordings, video, and animal-borne sensors.



Joshua Salako is a researcher in the Machine Learning for Ecology research group at AIMS, where he earned an MSc in Mathematical Sciences in 2026. His interests span computer vision, AI for science, and efficient machine learning, with a focus on using AI to support ecological research and conservation. He also brings experience working in the AI industry.

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