



INVITATION TO SPECIAL RESEARCH SEMINAR

The University of Zambia through the **Integrated Water Resources Management Centre of Excellence (IWRM-CoE)** hosting the **O.R. Tambo Research Chair (Water Conservation)** in collaboration with **The London Geochronology Centre, University College London London, United Kingdom** invites you to attend a special research seminar on exploring the complex relationships between **tectonics, climate change, erosion, river system processes, human evolution and sustainable water-resource management in Southern Africa**. This seminar will highlight new approaches to geochronology and landscape evolution, the development of the Zambezi river system, erosion and exhumation histories, hominin migration and river crossings, palaeo-Lake Makgadikgadi and modern approaches to sustainable transboundary water management in the Luapula Basin.



DATE: TUESDAY, 18TH AUGUST, 2026.

TIME: 10:00 HOURS TO 12:30 HOURS

VENUE: SCHOOL OF MINES MAIN- LECTURE THEATRE

MODE: PHYSICAL

All members of the University community are warmly invited to attend and participate in this intellectually stimulating session.

ABSTRACT

Southern Africa's landscapes record a complex interplay between tectonics, climate, erosion, rivers and changing water availability, with consequences extending from the evolution and dispersal of early hominins to the sustainable management of water resources today. This session brings together geological, geochronological, geomorphological, palaeoenvironmental and hydrological perspectives to explore these connections across timescales.

New approaches to geochronology are helping to resolve long-standing questions about the timing of human evolution in southern Africa, including the age of *Australopithecus africanus* and the environments in which early hominins lived. At the landscape scale, sediment-provenance studies of the Zambezi system trace the evolution and connectivity of river networks from source to sink, revealing the effects of lithology, weathering, erosion and climate on sediment transfer. Thermochronology provides an independent means of reconstructing erosion and exhumation histories, allowing the response of landscapes to tectonic and climatic forcing to be quantified.

These geological perspectives are complemented by studies of the role of rivers and lakes in shaping human mobility and environmental change. River crossings may have influenced hominin dispersal through southern Africa, while the evolution of palaeo-Lake Makgadikgadi provides a record of the competing influences of tectonics and climate on one of the region's largest ancient water bodies. Finally, modern hydrological modelling demonstrates how cloud-based scenario assessment and environmental-flow approaches can support sustainable, transboundary management of the Luapula Basin and its wetlands.

Together, the contributions illustrate the continuity between past and present: understanding how southern Africa's rivers, lakes and landscapes respond to climatic and tectonic forcing is essential both for reconstructing our evolutionary past and for managing the region's water resources in a changing future.

PROGRAMME

Time	Programme Activity
10:00 – 10:05	Arrival and Speaker Introductions
10:05 – 10:10	Opening Remarks – School of Mines [Dean] / IWRMCoE
10:10 – 10:30	Prof. Pieter Vermeesch – “Did <i>Australopithecus africanus</i> Live 2 or 4 Million Years Ago?”
10:30 – 10:50	Prof. Kawawa Banda – “Paleolake Makgadikgadi: Tectonic Controls or Climate Change? Understanding the Evolution of Southern Africa's Largest Ancient Lake”
10:50 – 11:10	Prof. Eduardo Garzanti – “The Zambezi River System: Processes and Progress.”
11:10 – 11:30	Prof. Matthew Fox – “Using Thermochronology to Measure Erosion Rates.”
11:30 – 11:50	Dr. Misheck Chundu – “Cloud-Based Scenario Assessment of Environmental Flow for Sustainable Transboundary Water Resource Management in the Luapula Basin.”
11:50 – 12:10	Dr. Guido Pastore - “Would You Dare to Cross the River? Hominins and River Migration in Southern Africa.”
12:10 – 12:25	General Discussion and Questions
12:25 – 12:30	Closing Remarks and Vote of Thanks