UNIVERSITY OF CAPE TOWN BESPOKE STUDY TOURS

University of Cape Town • iYunivesithi yaseKapa • Universiteit van Kaapstad

Centre for Extra-Mural Studies
Open Learning for all

The Centre for Extra-Mural Studies has developed bespoke study tours for international students, UCT alumni and friends.

South African researchers have a competitive advantage over their fellow scientists in three fields of study – largely because of the superb opportunities offered by the local study contexts. The clarity and radio quietness of the night sky, the richness and preservation of the Karoo fossil record, and the significance and relevance of pre-colonial archaeological remains mean that local astronomers, palaeontologists, and archaeologists attract researchers from all over the world to join them in field projects. In these three unique study tours we share this research and the associated excitement with participants.

These individual study tours offer an opportunity to have an immersive learning experience that includes field trips to view and study rock art and shell middens in situ, find 255-million-year-old mammal-like reptile fossils and view the night sky through the world-famous telescopes at Sutherland where ground-breaking research is being done.

Participants will also learn about the first 500 years at the Cape. The first day of each study tour will comprise a lecture and visits to various sites in Cape Town. Professor Martin Hall will trace the emergence, development, and contradictions of the city from the 17th century through to South Africa's first democratic elections in 1994. The narrative will unfold through a range of perspectives, using archival sources, images, and individual testimonies.

The archaeology study tour will be led by UCT Emeritus Professor John Parkington, considered to be in the top 2% of archaeologists in the world – as determined by Stanford University. Professor Roger Smith is distinguished professor and has an A1-rating from the National Research Foundation, and Professor Patrick Woudt is Head of the Department of Astronomy at the University of Cape Town.

For more information about these three study tours please email Dr Medee Rall at:

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ARCHAEOLOGY STUDY TOUR

Discover the Stone Age art and archaeology of the Cape

Led by Emeritus Professor John Parkington

The Cederberg mountains and associated Atlantic coastlines of the Cape have one of the richest archaeological records of southern Africa with a long and detailed history of coastal resource use and an attractive wealth of rock paintings made by the San. Many hundreds of sites in a scenic, often rugged, landscape tell the story of an eventful and well-researched San hunter-gatherer past. We situate the rock paintings and engravings of the subcontinent in this history and look at these sites in their landscape context and learn about their significance for African and global history.

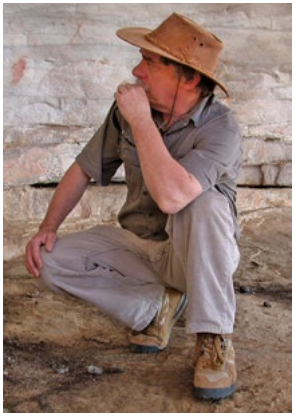
The San are First People of southern Africa in two senses of the word: they are the living descendants of the aboriginal people of southern Africa, occupying the subcontinent prior to the arrival of agriculturalist groups in the east and colonial groups in the southwest. The San are also genetically linked to the first members of our species, with female mitochondrial lineages the longest of any living people on Earth. This has prompted the belief that all modern people, members of the *Homo sapiens* species, derive from southern African populations that subsequently spread out of Africa and peopled the world.

Whilst the coastal shell middens refer most directly to issues of food gathering, settlement patterns and modern human evolution along this

resource-rich coast, the dramatic and sometimes enigmatic painted imagery clearly addresses issues of the mind and the world view of hunting and gathering painters. As will be shown, these records form an integrated narrative of human achievement. At the rock faces in the Cederberg mountains we will try to understand the intentions and mindsets of skilful artists with world views very different from our own, clearly fascinated by the elephant herds that once roamed the mountain trails, sadly now long since gone.

Many well-preserved paintings, along with the associated living sites, allow us a unique insight into the local foragers' lives by retracing their footsteps and analysing their art and artefacts.

This fourteen-day study tour includes lectures at the University of Cape Town, visits to the university's archaeology laboratories, the San display at the Iziko South African Museum as well as the archaeology collections at this museum, a field trip to the Cederberg mountains to see and learn about rock art in situ and visits to nearby shell middens at the coast, as well as a visit to the !Khwa ttu nature reserve.



JOHN PARKINGTON, considered to be in the top 2% of archaeologists in the world – as determined by Stanford University, is Emeritus Professor and a Senior Research Scholar in the Archaeology Department at the University of Cape Town. He has been excavating and studying the lives of San hunter-gatherers, along with colleagues and students, for some decades and shares his insights whilst visiting sites across this landscape. He is the author of several books on rock art, rock engravings and archaeology as well as chapters in several books and over 150 scholarly articles.

ASTRONOMY STUDY TOUR

Discover southern hemisphere cutting edge astronomy research, observatories and telescopes

Led by Professor Patrick Woudt

Research at the University of Cape Town Astronomy Department is centred on stellar and galactic astrophysics and extragalactic astronomy. Besides leading many research projects on the South African Large Telescope (SALT) as principal investigators, members of the Astronomy Department lead four of the eight MeerKAT large survey projects. As the MeerKAT array will be incorporated in the mid-frequency dish component of the Square Kilometre Array (SKA), this places UCT astronomy research at the very forefront of the scientific exploitation of the SKA international radio telescope project. MeerKAT consists of 64 dishes of 13.5 metres in diameter each and supports a wide range of observing modes, including deep continuum, polarisation and spectral line imaging, pulsar timing and transient searches.

The South African Astronomical Observatory (SAAO), closely allied to the Astronomy Department at UCT, operates four major telescopes in Sutherland – the SALT, the 1.0 m and 1.9 m telescopes and Lesedi which are all optical telescopes which gather ultraviolet, infrared and visible light from distant stars and galaxies to better understand our Universe. Besides the SAAO's flagship telescopes, the Sutherland facility houses a number of other telescopes and instruments.

This fourteen-day study tour will cover various aspects of the cutting-edge astronomy research being done at UCT and at Sutherland. It will comprise of lectures on UCT campus, sessions at the Astronomy Department's telescope, observations with two optical teaching telescopes on UCT campus, an exposure to modern 3D visualisation techniques in astronomy, a visit to the South African Astronomical Observatory – the first observatory at the Cape, a session at the state-of-the art digital planetarium at the Iziko South Museum and a field trip to the world-famous observatory at Sutherland.

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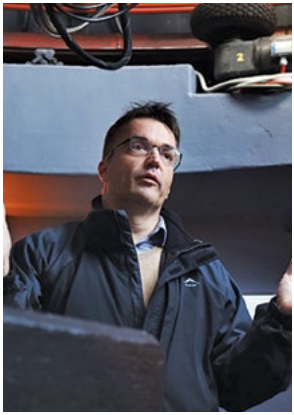

PATRICK WOUDT is Professor and Head of the Astronomy Department at the University of Cape Town. His research interests are cataclysmic variable stars and optical and radio transient surveys, and his specialties astronomical research, postgraduate student supervision and undergraduate and post-graduate lecturing. He has been President of the South African Institute of Physics and Chair of the National Committee of South Africa for the International Astronomical Union and the International Union of Pure and Applied Physics.

PALAEONTOLOGY STUDY TOUR

Discover South Africa's world-famous Karoo fossils

Led by Professor Roger Smith

The Karoo rock outcrops have long been regarded as the largest and richest collecting grounds for fossils of a long extinct group of vertebrates known as therapsids or 'mammal-like reptiles'. As the name suggests, members of the therapsid group show the step-by-step evolutionary transition from reptiles into mammals. The layer upon layer of sedimentary rocks that make up the Karoo Supergroup are an almost continuous 120-million-year-long record of climate change in western Gondwana from 300 to 180 million years ago. The rocks and fossils of the Karoo thus offer a unique opportunity to researchers to find out how terrestrial ecosystems respond to climate changes over time scales measured in millions of years. Fossils of the Karoo Supergroup include plants (macrofossils, pollen and spores), rare insects and fish, common and diverse tetrapods (mostly therapsids, temnospondyl amphibians, parareptiles, archosauromorphs and dinosaurs), and many types of trace fossils such as coprolites, burrows and trackways.

This fourteen-day study tour will comprise lectures on UCT campus, sessions at the laboratories in the university's Palaeontology Department, a visit to the Stone Bones and African Dinosaur galleries at the Iziko South African Museum, a look at their palaeontology collections

and fossil preparation laboratory and a trip to the Karoo National Park to view the outdoor fossil trail and several days in the field looking for fossil bones in rock exposures on surrounding farms.

Students will be introduced to taphonomy: a new way of looking at fossil bones that uses evidence from the rock and the embedded remains to reconstruct the events that caused death, disarticulation, and final burial. The lectures will focus on Permo-Triassic aged mammal-like reptiles of Gondwana, tracking their evolutionary lineages – through the world's worst mass extinction event to eventually give rise to the very first mammals. Students will search for 255-million-year-old bones on the Karoo slopes and be assisted by Professor Smith with excavating and recording all of the geological and taphonomic data.

ROGER SMITH is Distinguished Professor in the School of Geosciences at the University of the Witwatersrand and Emeritus Research Associate at the Iziko South African Museum. Born in England, he emigrated to South Africa in 1976 after graduating in geology and zoology from Manchester University. He did his Masters degree at the University of the Witwatersrand and his doctorate at the University of Cape Town. He has an A1-rating from the National Research Foundation and is currently working on several projects under the general title of 'Palaeoecology of Gondwana'. Roger's research is field-based, integrating palaeontological and sedimentological data into palaeoenvironmental reconstructions of ancient landscapes, especially the dramatic changes that took place in the Karoo Basin during the End-Permian mass extinction event.