

Science Café Stellenbosch invites you to a public lecture

Great white sharks –  
on the brink of  
extinction?



with

Dr Sara Andreotti, Stellenbosch University

and

Michael Rutzen, Shark Diving Unlimited

Moderated by

Prof. Conrad Matthee, head: Department of Botany and Zoology, SU

**Date:** Wednesday 17 August 2016

**Time:** 18:00-19:00

**Venue:** JS Gericke Library Auditorium

**RSVP:** [sciencecafe@sun.ac.za](mailto:sciencecafe@sun.ac.za)

Join us for a special screening of the BBC Natural World documentary “Great Whites A Living Legend” directly after the talk

### More about Sara Andreotti

Dr Sara Andreotti works toward the development and implementation of a long term management system for the conservation of South African white sharks. She has been involved in marine biology since the age of sixteen, when she started working as a volunteer at the Natural Marine Reserve of Miramare in Trieste, Italy.

Following her passion for marine life and research, she completed a bachelor's in biology at the Università degli Studi di Trieste in Italy. She then became involved with the non-profit organisation Posidonia as a scientific collaborator in 2007 in order to work on shark behaviour. This organisation organised frequent field trips to South Africa. In 2008 she completed an MSc in marine biology (*cum laude*) at the same University. The title of her thesis was 'Field ethological observations on the great white shark (*Carcharodon carcharias* L.)' under the supervision of Prof. Enrico Ferrero.

In 2009 Sara came back to South Africa to continue her work to create a database of white sharks based on photos of their dorsal fins. In order to achieve this, she teamed up with Michael Rutzen from Shark Diving Unlimited and also closely collaborated with officials from the Oceans and Coasts branch of the Department of Environmental Affairs. The project evolved into research for a PhD at Stellenbosch University under the supervision of Prof. Conrad Matthee. In order to extend the study from Gansbaai to the entire South African coastline, Rutzen's company sponsored a catamaran with which they undertook several research voyages around South Africa. After six years of field work, Sara and Michael managed to catalogue 426 white sharks and collected more than 300 genetic samples. The PhD was awarded in March 2015.

## More about Michael Rutzen

Michael Rutzen is a conservationist and a specialist in great white shark behaviour. He is one of only three people in the world who free dives with great white sharks using his posture and body language to communicate with great whites during these sessions.

Michael has dedicated over 20 years of his life to educate the public and promote a healthier relationship between humans and great white sharks. He has guided several world-renowned still photographers and film crews and initiated a series of internationally acclaimed documentaries to promote white shark conservation. Despite a biased popular image, great white sharks are extremely vulnerable as a species and rapidly declining in numbers. Through his shark cage diving company Shark Diving Unlimited in Gansbaai, South Africa, he promotes the positive experience of observing live sharks in their natural habitat and uses the profits to fund conservation and several scientific research projects. He also provides field support for researchers and officials from the Department of Environmental Affairs.

Michael is one of the four inventors of the technology behind the Sharksafe Barrier. The Sharksafe Barrier combines magnetism and visual stimuli to deter the three shark species (great white sharks, tiger sharks and bull sharks) considered dangerous to humans. The aim of the project is to find an eco-friendly alternative to anti-shark nets, culling and baited hooks, to protect both beach goers and sharks.

## More about Prof. Conrad Matthee

Prof. Matthee is the executive head of the Department of Botany and Zoology at SU and a principle investigator in the Evolutionary Genomics Group. With over 100 peer-reviewed articles published to date, his evolutionary genetic research has a strong focus on conservation. He is particularly interested in the interplay between life history, biogeography and ecology and use this to address systematic uncertainties at all taxonomic levels using a variety of different molecular techniques. He believes that the conservation of biodiversity is very much dependent on explaining the evolutionary patterns and processes associated with living organisms, and that the rich terrestrial and marine biodiversity of Africa lends itself perfectly to test various hypothesis associated with the evolution and conservation of species.

His research team currently focuses on parasite-host codivergence at the phylogeographic and species level; stock assessment and conservation of marine resources; comparative phylogeography of terrestrial vertebrates; and evolution and systematics of free-living and parasitic arthropods. Prof. Matthee supervised Sara's PhD thesis, entitled "The conservation of South African white sharks: population numbers, genetic distinctiveness and global connections".

*Science Café Stellenbosch is an initiative of the Faculty of Science at Stellenbosch University to promote the public discussion of science issues in the news.*

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