



## 23<sup>rd</sup> INTERNATIONAL CONGRESS OF ZOOLOGY

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### ZOOLOGY IN THE ANTHROPOCENE – A HOLISTIC INTEGRATED APPROACH TO CONSERVATION

*Anthropogenic pressures are significantly changing the Earth's geology and ecosystems. These impacts are now formally recognized in the name of the current geological timescale viz. the Anthropocene. Whether the start of the Anthropocene coincided with the onset of agriculture and domestication some thousands of years before, or whether this Epoch commenced in the 18<sup>th</sup> century immediately following the invention of the steam engine and the industrial revolution remains a point of speculation. What is abundantly clear, however, is the need to fully understand drastically changing biodiversity patterns and for bold actions to ensure the continued survival of many species significantly affected by human-driven change. Approximately 50% of the Earth's surface has been modified due to human action; forests have declined by more than 25% because of the expansion of agriculture, and global average temperatures have increased by more than 1.5°C and continue to increase annually. The global indicators of change (including population size, damming of rivers, water pollution, fertilizer consumption, increased use of insecticides, use of genetically modified organisms, urban population size, and even the number of McDonald or KFC fast-food restaurants) all indicate more pronounced changes in human activities since the 1950s. Alien invasive species are ever-increasing, with an increasing number of species adapting to life within urban environments. We are also faced with unprecedented emerging threats such as disease epidemics that decimate wildlife, electro-smog and potentially disastrous efforts to harvest energy. Today, more than ever, it is imperative that bridges linking science, policy and economics are forged and remain open and, when taken together with technological advances in methodology, result in effective conservation and environmental management.*

***This conference is dedicated to understanding and managing change in the Anthropocene.***

## PLENARY SPEAKERS

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**Raurie Bowie**

Prof Raurie Bowie is a professor in the Department of Integrative Biology, University of California, Berkeley, and is also associated with the FitzPatrick Institute of African Ornithology, University of Cape Town. He is a globally-recognized ornithologist and his research focuses on understanding spatial and evolutionary patterns that underpin bird species richness and diversity. He has published extensively in this field.

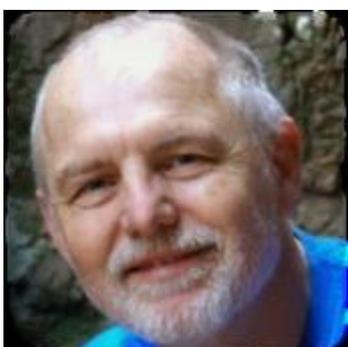
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**Colin Chapman**

Prof Colin Chapman is based in the School of Environment, and the Department of Anthropology, McGill University, Montreal, where he holds a Canada Research Chair. He is regarded as one of the world's leading experts in primate and infectious disease research, as well as the protection of primates. He has received many awards, including the recent Konrad Adenauer Research Award of the Alexander von Humboldt Foundation.

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**Christo Fabricius**

Prof Christo Fabricius is the Global Lead Scientist for Wildlife Practice at the World Wildlife Fund, and is also affiliated with the Nelson Mandela University, Port Elizabeth. He is a systems ecologist who specialises in the resilience of social-ecological systems at the interface of ecosystems and society. He is also strongly involved in science to inform policy and has received awards in recognition of his contributions to conservation and sustainability.

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**Marcel Holyoak**

Prof Marcel Holyoak is based in the Department of Environmental Science and Policy, University of California, Davis. His research program focuses on the importance of spatial dynamics linked to populations and communities. He addresses theories that are central to conservation and the maintenance of biodiversity. He currently serves as the Editor-in-Chief for *Ecology Letters*, one of the premier journals in the field.

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**Camille Parmesan**

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Prof Camille Parmesan is based in the School of Biological and Marine Sciences, University of Plymouth, where she holds the National Marine Aquarium Chair in Public Understanding of Marine Science and Human Health. She is a global leader in climate change and has published numerous scientific and popular papers on the topic. She has served as a lead author for the Intergovernmental Panel on Climate Change, which was awarded the Nobel Peace Prize in 2007.

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### **Claire Spottiswoode**

Prof Claire Spottiswoode is appointed jointly at the FitzPatrick Institute of African Ornithology, University of Cape Town, and the University of Cambridge. Her research interests are in the evolution, ecology and conservation of bird species interactions, and she is internationally recognised for her work on the topic. More recently, she has begun working on mutually beneficial interactions between species in Mozambique's Niassa National Reserve.

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### **Nils Stenseth**

Prof Nils Stenseth is currently affiliated with the Faculty of Mathematics and Natural Sciences at the University of Oslo. He has previously served as Chair of the Centre for Ecological and Evolutionary Synthesis, President of the Norwegian Academy of Science and Letters, and as a member of the Scientific Council of the European Research Council. His research focus is in the field of evolutionary biology with a focus on vector-borne diseases, merging ecological and evolutionary thinking.

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### **Anthony Turton**

Prof Anthony Turton is affiliated with the Centre for Environmental Management, University of the Free State, Bloemfontein. He is a well-respected authority on water-related studies and specializes in water resource management as a strategic issue, water as a business risk, and water and social stability. He is passionate about the conservation of water and is a prolific public speaker on the topic. He frequently serves as an expert advisor to government and industry.

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