The Earth System: history, future and implications for life elsewhere

Friday January 16th Reed Hall, University of Exeter

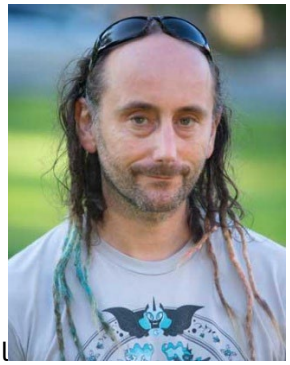
This symposium is in celebration of Andy Watson's career in science aa he comes to formal retirement and emeritus status. The speakers are his ex-students or others closely associated with themes that he has contributed to over the years.

SPEAKERS

Colin Goldblatt: The evolution of Earth's early atmosphere

Colin is a professor at UVic, the University of Victoria in BC, Canada. He researches the possible climate states of the Earth and the processes that have controlled the composition of the Earth's atmosphere over its long history. He started on this path when he was a PhD student at UEA with Tim Lenton and Andy Watson in the early 2000s and subsequently developed it at NASA Ames and the University of Washington.

Andy Ridgwell: Instabilities in the Earths climate and carbon cycle



Andy is a master of Earth system modelling. Now a professor at University of California at Riverside, he has had a gloriously unconventional path through academia via the universities of Cambridge, Nottingham, UEA, Vancouver, and Bristol. His fundamental insights have helped shape our understanding of how the Earth system has evolved, recognised by his recent election as an AGU Fellow.

Tim Lenton: The evolution of Gaia(s)

Tim needs no introduction: founding director of the Global Systems Institute at Exeter and globally, one of the highest profile thinkers in the field of climate science and sustainable futures. Tim was a PhD student of Andy Watson and Jim Lovelock in the 90s. Among his many contributions has been the concept of "Gaia 2.0" – updating and reshaping Lovelock's Gaia for the 21st century.

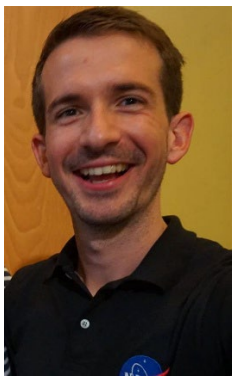
Ben Mills: Earth's Deep Future

Ben is a professor and head of the Earth Evolution group at the university of Leeds. He has rapidly become established as one of the foremost Earth system modellers in the world, from a start as a mathematics graduate in 2008, when he began his PhD with Andy Watson and Tim Lenton at UEA.

Rayanne Vitali: What controls atmospheric oxygen levels?

Rayanne is an Exeter mathematician turned Earth system scientist. She received her PhD in 2023, supervised by Claire Belcher and Andy Watson. The subject of her thesis was the same as Andy's PhD in1978, namely, the controls on the concentration of atmospheric oxygen, could it be wildfire? Finally, it seems, we have an answer to that question!

Andrew Rushby: Exoplanets: Biosignatures and habitability metrics



Andrew is an expert on extrasolar planets and the prospects for life on them. After receiving his PhD from UEA in 2013, he moved to NASA Ames Research Centre, before returning to the UK and Birkbeck College in 2021.

James Dyke: New insights from Daisyworld

James is a deep thinker and great communicator on the current global environmental crisis. He wrote his thesis on Daisyworld, and will explain how it remains a useful parable for the modern world.