

Presenter: Prof. Steven Sherwood

**Title: Can isotopes help resolve outstanding issues in the behaviour and parameterisation of convection?**

Abstract

Uncertainty in how to simplify the behaviour of convection, so as to represent its effects in climate models for example, remains a core problem that limits weather and climate prediction. It is also an outstanding intellectual challenge. There is optimism that the observation of water vapour isotopes can be used to test various models of convective processes and reject some which would otherwise appear plausible on the basis of traditional observations. I will present a few very simple calculations and a review of some other studies to help identify where a contribution from isotopic measurements appears to me to be more or less likely, and will note some cautions in attributing predicted differences in isotope behaviour to errors in convection.