

## **Changes in Southern Ocean circulation and properties: causes and consequences**

**Mike Meredith** (mmm@bas.ac.uk)

British Antarctic Survey BAS, Cambridge, UK

The Southern Ocean exerts significant influence over the rest of Planet Earth, and directly affects the lives and livelihoods of its inhabitants. It is a key regulator of global climate, absorbing large quantities of heat and carbon (including human-produced) from the atmosphere, and storing them deep in the ocean interior. It is also increasingly seen to be a key influence on the stability of the Antarctic Ice Sheet, and is the home for diverse marine ecosystems and species, some of which are of commercial significance. There is strengthening evidence that the Southern Ocean circulation is changing, from the surface to the abyss, and the increasing availability of data from innovative sources is unveiling new levels of complexity to this to change. This talk will discuss some specific examples of Southern Ocean circulation change, its importance, and the ongoing requirement for sustained observations from this most challenging of environments.