

## SESSION: Antarctic and sub-Antarctic earth science

### MARS Themes:

Capacity Development

### Title:

The SOCCO Trajectory - A brief synopsis of our origin, emergence and strategic direction

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### Abstract:

This presentation aims to share the journey from humble beginnings to a leading research capability that addresses the role of the Southern Ocean in 21st century regional and global climate. As a small group, a niche approach was needed to address this grand challenge, which led to the formulation of an underpinning hypothesis that fine-scale ocean dynamics are key to understanding climate sensitivity through their impacts on the variability and trends of carbon fluxes in the Southern Ocean. An emergent aim was to understand and constrain the seasonal cycle as the mode of variability that links ecosystems to climate. This approach required the use of observational and modelling platforms that could resolve the relevant scales and involved pioneering Southern Ocean robotics experiments, remote sensing and high-resolution modelling. It has been a journey fraught with difficulties and the occasional disappointment but ultimately eclipsed by moments of realisation of achieving innovative and pertinent science. Overall, SOCCO continues to make a growing contribution to our understanding of the role that fine-scale dynamics play in shaping the phasing and magnitudes of the seasonal cycle and its inter-annual variability. This presentation will showcase our Phase IV Integrated Science and Innovation strategy: Taking ocean climate science to society.

### Format:

Oral presentation

### Keywords: (add ; between keywords)

Capacity Development, Oceanography, Research

