

ANGELIKA BRANDT'S RESPONSE TO AWARD OF SCAR MEDAL FOR EXCELLENCE IN ANTARCTIC RESEARCH 2008

I feel privileged to be awarded the SCAR Medal for Excellence in Antarctic Research. This medal is a stimulating recognition of our biodiversity research in the diverse and beautiful Antarctic ecosystem. The honor has to be shared with the whole ANDEEP family, more than 50 scientists from 13 nations; without their wonderful teamwork and the brilliant science from so many colleagues we would have never been as successful as we were and are and SCAR served as a wonderful platform for our endeavour. The marine life of the Southern Ocean, cradled in deep bottom water formed by melting ice, is connected to the abyss of all the other oceans by the Antarctic Circumpolar Current and its well being is of fundamental importance to the health of the oceans on our planet.

The ultimate aim of ANDEEP was to shed light upon patterns of animal distribution in the Southern Ocean deep sea, an area that was biologically unknown. For decades scientists questioned the origin of the Antarctic fauna and hypothesised phylogenetic relationships and biogeographic pathways of taxa via the Southern Ocean deep sea without knowing what actually lives there. The ANDEEP project aimed to fill this knowledge vacuum and discover patterns of deep-sea species composition. We questioned whether the fauna of the Southern Ocean deep sea would be similar to that of the adjacent deep-sea basins or whether it would also be linked to the shelf fauna, and we were interested in the physical background of the distribution of the animals. The ANDEEP team could document that the linkage of the SO deep-sea fauna is complex and varies between taxa and across scales. First insights into SO deep-sea biodiversity patterns and hypotheses on some driving forces have been published in *Nature* in May 2007. These data contribute not only to SCAR-EBA and CAML, which is strongly supported by SCAR, but also the abyssal biodiversity project CeDAMar within the Census of the Marine Life.

ANDEEP discovered interesting patterns of faunal distribution on the deep ocean floor, but the project also raised many questions, for example how an environment that seems to be so poor in food supply can support such a rich community. ANDEEP-SYSTCO (SYSTEM COUPLING) builds on the precursor program ANDEEP and will help to understand the role of the Southern Ocean in global energy budgets, climate change, and the functioning of atmospheric, pelagic, and benthic systems of the Southern Ocean, scientific questions EBA poses. The approach of exploring a new or almost untouched frontier with regard to the geographic area will be complemented by approaching a new frontier in linking major scientific disciplines. SYSTCO involves a wide variety of scientists from different disciplines, such as atmospheric sciences, planktology, physical oceanography, geology, sedimentology, and biogeochemistry for simultaneous study of a defined area to shed light on atmospheric-pelagic-benthic coupling processes. This is the background that also bridges EBA to the other earth sciences projects of SCAR, like ACE, PANTOS, and ECA.