

MEMBER COUNTRY: Portugal
National Report to SCAR for year: 2009-2010

Activity	Contact Name	Address	Telephone	Fax	Email	web site
National SCAR Committee	Adelino V M Canario	Centre of Marine Sciences, University of Algarve, Gambelas, 8005-139	-289800574	-289799718	acanario@ualg.pt	
SCAR Delegates						
1) Delegate 2) Alternate Delegate	Adelino V M Canario	Centre of Marine Sciences, University of Algarve, Gambelas, 8005-139	-289800574	-289799718	acanario@ualg.pt	
Standing Scientific Groups						
Life Sciences 1) 2) 3) 4)	José Xavier	Institute of Marine Research, University of Coimbra	+ 351 936728419		JCCX@cantab.net	
Geosciences 1) 2) 3) 4)						
Physical Sciences 1) 2) 3) 4)						

Activity	Contact Name	Address	Telephone	Fax	Email	web site
Scientific Research Program						
ACE 1) 2) 3) 4)						
AGCS 1) 2) 3) 4)						
EBA 1) 2) 3) 4)	José Xavier	Institute of Marine Research, University of Coimbra	+ 351 936728419		JCCX@cantab.net	
ICESTAR 1) 2) 3) 4)						
SALE 1) 2) 3) 4) AAA (2010-) 1) 2) 3) 4)						

Activity	Contact Name	Address	Telephone	Fax	Email	web site
ACTION GROUPS						
1) SCAR-CBET 2) 3) 4) insert others as needed	José Xavier	Institute of Marine Research, University of Coimbra	+ 351 936728419		JCCX@cantab.net	
EXPERT GROUPS						
1) Permafrost and Periglacial Environm 2) EGBMM 3) 4) insert others as needed	Gonçalo Vieira (Co-Chair) José Xavier	Centro de Estudos Geográficos, Instituto de Geografia e Ordenamento do Território, Universidade de Lisboa, Alameda da Universidade, 1600-214 Lisboa, Portugal Institute of Marine Research, University of Coimbra	-217939867 + 351 936728419	-217938339	vieira@campus.ul.pt JCCX@cantab.net	www.antecc.org
SCADM						
1) 2)						
SCAGI						
1) 2)						
NATIONAL ANTARCTIC DATA CENTRE						
SCAR DATABASE						
insert name of database for which your country has responsibility						

A BRIEF SUMMARY OF SCIENTIFIC HIGHLIGHTS*:

The project PERMANTAR - Permafrost and climate change in the Maritime Antarctic (PTDC/CLI/70020/2006 - <http://www.antecc.org/permantar.html>) funded by the Fundação para a Ciência e a Tecnologia and coordinated by the Centre of Geographical Studies, University of Lisbon (PI: Gonçalo Vieira) focusses on Permafrost mapping, monitoring and modelling in Livingston and Deception Islands (South Shetlands). It includes participations of the Centre of Geophysics of the University of Évora, Centre of Geophysics of the University of Lisbon, Department of Physics of the University of Alcalá (Spain), Bulgarian Antarctic Institute and University of Buenos Aires. During the Antarctic season of 2009-10 the activities of PERMANTAR focussed in Livingston (Bulgarian Station St. Kliment Ohridski) and Deception (Spanish Station Gabriel de Castilla) Islands and included the maintenance of equipment and data collection from the permafrost borehole and active layer monitoring networks (GNT-P and CALM-S), geomorphological monitoring network (solifluction, rock glacier, thermokarst and coastal erosion) and snow cover monitoring. PERMANTAR is a partner project of the Spanish project PERMANTAR-IPY and activities took place jointly. PERMANTAR-2 was approved by the FCT and should start in March 2010 enabling the continuation of PERMANTAR monitoring activities until at least 2012. The new project extends the collaboration to the University of Wisconsin-Madison (USA) and to the Federal University of Viçosa (Brazil), with planned new collaborations in Brabant and Anvers Islands (with USA), as well as in King George Island (with Brazil).

The project SNOWANTAR - Snow cover characteristics and regime in the South Shetlands, Maritime Antarctic (ESA Category - 1 Project, proposal C1P.6202 - <http://www.antecc.org/snowantar.html>) coordinated by the Centre for Geographical Studies of the University of Lisbon (PI: Carla Mora), with participation of the University of Alcalá (Spain) analyses snow cover regime in Livingston and Deception Islands from ASAR satellite imagery and uses ground truth data collected within PERMANTAR. Imagery from 2008 and 2009 has started to be analysed and preliminary results have been presented in International conferences.

José Xavier (IMAR, University of Coimbra). Principal Investigator of the POLAR Project (within Portugal Scientific Program PROPOLAR)) - IMAR, University of Coimbra (Portugal) and British Antarctic Survey (UK).

Activities

from January until December 2009 consisted of:

(1) RESEARCH: The most important output was the publication of the Antarctic research book "Cephalopod beak guide for the Southern Ocean", by José Xavier and Yves Cherel, published by the British Antarctic Survey and endorsed by SCAR related science programs ICED-IPY and CAML-IPY, and by the International Polar Year. José Xavier also undertook the longest research Antarctic expedition (9 months undertaking more than 10 research projects) for a Portuguese national, starting in March 2009 with a research cruise onboard of the RRS James Clark Ross, of the British Antarctic Survey, to evaluate the ecology, abundance and distribution of fish, cephalopods and crustaceans in the Scotia Sea, from close to the Antarctic continent (on the Weddell Sea) to the Antarctic convergence north of South Georgia, until April 2009. After the cruise, José Xavier joined a British team at Bird Island Research Station to investigate the foraging and feeding ecology of wandering albatrosses and gentoo penguins during the Antarctic Winter until November 2009. This research was carried out under the British Antarctic Survey core research programme DISCOVERY 2010, involving scientists from more than 30 countries worldwide, including numerous SCAR countries. Funding came from the Foundation for Science and Technology (Portugal) and the British Antarctic Survey. José Xavier was appointed the leading scientist of the new research project CEPH, investigating the role of cephalopods in the diet of top predators at Bird Island, South Georgia, under the Long Term Monitoring and Survey (LTMS) program of the British Antarctic Survey. José Xavier was appointed representative of the Association of Polar Early Career Scientists (APECS) to the Standing Scientific Group of Life Sciences (SSG-LS), Portugal representative of the SCAR Capacity Building, Education and Training Action group and was elected member of the Scientific Steering Committee of ICED (Integrating Climate into ecosystem dynamics of the Southern Ocean).

(2) EDUCATION & OUTREACH: During the research cruise and fieldwork in the Antarctic, José Xavier was actively involved in numerous education and outreach activities which included daily posts of the cruise blog, direct contact with schools from USA, UK, Malaysia, Portugal and Brazil, more than 15 interviews to national portuguese TV and radio stations and international education and outreach activities of the Association of Polar Early Career Scientists (including an interview linking Antarctica with the Arctic).

Paulo Catry (Eco-Ethology Research Unit, ISPA - Instituto Universitário) worked at Steeple Jason Island (Falklands) in December-January, while Rafael Matias, Ana Almeida (Eco-Ethology Research Unit, ISPA - Instituto Universitário) and José Pedro Granadeiro (CESAM, National Museum of Natural History) were at the long-term study site, on New Island, Falkland Islands, covering the period from October 2008 till March 2009. The main research is a long-term study on the demography and behavioural ecology of black-browed albatrosses (*Thalassarche melanophris*), a globally threatened species which is also one of the top predators of the Patagonian Shelf ecosystem. The main focus was, for the second year on a row, on GPS-tracking foraging albatrosses and to contrast the results with Vessel Monitoring System (VMS) data provided by the Falkland Islands Fisheries Department, in order to better understand the interactions between birds and fishing vessels. The research is funded by FCT-Portugal and the Falkland Islands Government.

The project named "Comparative Study of the King George, Robert, Livingston and Deception islands magmatism (Antarctica)" is granted by Conselho Nacional de Desenvolvimento Científico e Tecnológico-CNPq (Brazil) with the collaboration of Adriane Machado (supervisor in Portugal) and Teresa Barata, both researchers from Centro de Geofísica da Universidade de Coimbra. The project activities which started in January 2010 and will be finished by December 2012, counts with the participation of researchers from Universidade Federal do Rio Grande do Sul (Brazil), Universidade de Brasília (Brazil), Universidade Federal de Santa Catarina (Brazil) and Universidade de Buenos Aires (Argentina). The project main goals are as follows: meso-cenozoic volcanism different facies identification; volcanic rocks geochemical affinity characterization; the genesis and evolution magmatism study; U-Pb dating of the main stratigraphic units; tectonic structures identification and high quality geological maps elaboration. The data and samples used in the project activities were collected during fieldworks made in the past by the project researchers and other collaborators. The project also involves the participation of a Master degree student in the field of geochemistry and two non-graduated students in geochronology and tectonic fields. In the current year, rock microscope descriptions of the volcanic rocks from Deception Island and U-Pb datings of the rocks from Greenwich Island, as well as sampling selection for geochemical analysis have been accomplished. Further more four geochemical, geochronology and structural geology abstracts over South Shetland Islands have been published.

* Please include any scientific activities you believe might be considered bioprospecting (<http://www.scar.org/treaty/atcmxxxiii/> see WP2)