

National SCAR Committee, Spain

**ANNUAL SCAR REPORT ON SPANISH ANTARCTIC
SCIENTIFIC ACTIVITIES
2007-2008 CAMPAIGN
AND
PLANNED NEW PROGRAMMES**

**Report no. 20
for the Scientific Committee on Antarctic Research (SCAR)**

**INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH**

**ANNUAL SCAR REPORT ON
NATIONAL ANTARCTIC SCIENTIFIC ACTIVITIES
1 July 2007 - 30 June 2008**

Member Country: SPAIN

National SCAR Committee:

Title Comité Nacional de Investigación Antártica - SCAR
Address Facultad de Ciencias (C-6)
 Universidad Autónoma de Madrid
 28049 Madrid, Spain
Telephone +34 91 497 45 13
 Fax +34 91 497 29 82
 Web site www.uam.es/cn-scar

Chairman/President Dr. J. López-Martínez

Representatives:

to SCAR

	Name	Address
Permanent Delegate	Dr. J. López-Martínez	(1)
Alternate Delegate	Dr. J. Galindo-Zaldívar	(2)

to SCAR Standing Scientific Groups

Geosciences	Dr. J. Galindo-Zaldívar	(2)
	Dr. J. A. Flores	(3)
Life Sciences	Dr. L. G. Sancho	(4)
	Dr. C. Pedrós	(5)
Physical Sciences	Dr. D. Gomis	(6)
	Dr. F. J. Navarro	(7)

National Operating agencies:

Scientific projects management:

Title Subprograma Nacional de Investigación Polar
 Ministerio de Ciencia e Innovación
Address Albacete, 5
 28027 Madrid. Spain
Telephone 34 91 603 77 25
 Fax 34 91 603 70 26

Logistics and operations:

Title Unidad de Tecnología Marina (UTM)
 Centro Mediterráneo de Investigaciones Marinas y Ambientales, CSIC
Address Passeig Marítim de la Barceloneta, 37-49
 08003 Barcelona. Spain
Telephone 34 93 230 95 00
 Fax 34 93 230 95 55

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NATIONAL PROGRAMMES/PROJECTS

PERMANENT STATIONS (WINTERING)

Name	Location	Coordinates
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NONE

SUMMER-ONLY BASES

Name	Location	Coordinates
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Juan Carlos I (20 Nov. 2007 - 1 March 2008) (http://www.utm.csic.es/bae.asp)	Livingston Island	62° 39' 46" S 60° 23' 20" W Altitud: 12 m
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Gabriel de Castilla (20 Nov. 2007 - 1 March 2008) (http://www.ejercito.mde.es/mexterior/webantartida/)	Deception Island	62° 39' 46" S 60° 23' 20" W Altitud: 12 m
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VESSELS OPERATING IN ANTARCTICA

- R/V Hespérides <http://www.utm.csic.es/hesperides.asp>

- R/V Las Palmas <http://www.utm.csic.es/laspalmas.asp>

AUTOMATIC RECORDING STATIONS/OBSERVATORIES

Name/Identifier	Coordinates	Parameters Recorded
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89064	62° 39' 46" S 60° 23' 20" W	Meteorology
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1900-03	62° 58' 40" S 60° 40' 30" W	WOVO network (summer only)
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-----	62° 39' 46" S 60° 23' 20" W	Seismology (summer only)
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-----	62° 39' 46" S 60° 23' 20" W	Ozone, NO ₂ and CO ₂ (summer only)
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NATIONAL PROGRAMMES/PROJECTS

-----	Geographic: 62° 39' 44" S 60° 23' 21" W	Magnetic elements (D, H, Z, F)
	Geomagnetic: 52° 06' 15" S 08° 12' 40" E 19.4 m a.s.l.	
Campbell	62,66 S 60,30 W (Johnson glacier)	Meteorology
Campbell	62,65 S 61,11 W (Byers Peninsula)	Meteorology

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NATIONAL PROGRAMMES/PROJECTS

GEOSCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Geology and geomorphology	* Geomorphology and neotectonics * Permafrost, soils and hydrology * Remote sensing and geological and geomorphological mapping	South Orkney Islands, Seymour Island region	2006-2008	J. López-Martinez	(1)
Geodesy	* Geodesy and geophysical measurements * Gravimetry * Remote Sensing	Deception Island	2006-2008	M. Berrocoso	(8)
Geophysics Seismology	* Seism-volcanic activity * Crust model	Deception Island	2006-2008	J. Ibáñez	(9)
Sedimentary processes	* Palaeoenvironments, palaeoceanography and palaeoclimatology * Continental margins	Data from Wilkes Land	2007-2009	C. Escutia	(10)
Seismology and Volcanology	* Broadband seismic stations * Cortical structure	Livingston Island, Deception Island and Cierva Cove	2007-2009	F.J. Almendros	(11)
Palaeoceanography	* Micropalaeontology * Asteroid impact zone	Pacific Sector of Southern Ocean	2007-2009	J.A. Flores	(3)
Tectonics and Geophysics	* Continental breakup * Continental margins * Marine basins evolution	Drake Passage, Bransfield Strait, South Shetland Islands, Antarctic Peninsula region	2007-2009	J. Galindo-Zaldívar	(2)

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NATIONAL PROGRAMMES/PROJECTS

LIFE SCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Non marine aquatic ecosystems	* Biodiversity * Limnology * Microbiology	Byers Peninsula (Livingston Island), Kerguelen Islands	2006-2008	A. Quesada	(12)
Non marine aquatic ecosystems	* Biotic interactions * Limnology * Microbiology	Byers Peninsula (Livingston Island), Kerguelen Islands	2006-2008	A. Camacho	(13)
Terrestrial biology	* Photosynthesis studies * Biodiversity evaluation * Microclimatic measurements	Livingston Island and Transantarctic Mountains	2007-2009	L.G. Sancho	(4)
Terrestrial biology	* Glacier retreat * Colonization processes * Gen flow	South Shetland Islands and Victoria Land	2007-2009	L.G. Sancho	(4)
Biological Oceanography	* Interactions sea-atmosphere * Pollution	Livingston Island, Bellinghausen Sea, Bransfield Strait, Weddell Sea and South Orkney Islands area	2007-2009	C.M. Duarte	(14)
Penguin studies	* Penguin response to climate effects * Response to parasites	Deception and Livingston islands, Potter Cove. Ronge, Yalour and Avian islands	2007-2009	A. Barbosa	(15)
Plankton and benthos studies	* Plankton and benthos connections * Global change	Antarctic Peninsula, Weddell Sea	2007-2009	E. Isla	(16)

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NATIONAL PROGRAMMES/PROJECTS

Non marine aquatic ecosystems	* Biodiversity	Byers Peninsula (Livingston Island)	2007-2009	A. Quesada	(12)
	* Limnology				
	* Microbiology				
Non marine aquatic ecosystems	* Biotic interactions	Byers Peninsula (Livingston Island)	2007-2008	E. Ortega	(17)
	* Limnology				
	* Microbiology				

PHYSICAL SCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Glacier thermo-mechanical processes	* Ice radar	Livingston Island	2006-2008	F. Navarro	(7)
	* Numerical simulation				
	* Hydrological regime				
Permafrost thermodynamics	* Active layer	Deception Island	2006-2008	M.J. Rodríguez - Arias	(18)
	* Heat transfer Abel ecuations				
Glaciology	* Glacier melting monitoring	King George Island	2007-2008	M.C. Domínguez	(19)
	* Modelling				
Geomagnetism	* Geomagnetic research	Deception Island	2007-2008	A. García	(20)
	* Magnetic prospecting				
Geomagnetism	* Geomagnetic research	Deception Island	2007-2008	M. Catalán-Morollón	(21)
	* Magnetic prospecting				
Chemical Oceanography	* Water contamination	Seas around Deception Island, Livingston and King George islands	2007-2008	A. Segura	(22)
	* Chemical analysis				

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NATIONAL PROGRAMMES/PROJECTS

Physical Oceanography	* Interaction sea-atmosphere * Sulphur global cycle	Palmer base	2007-2008	R. Simó	(23)
Physical Oceanography	* Circumpolar Antarctic tide * Shelf slope interactions	Elephant Island, South Orkney Islands	2007-2009	D. Gomis	(6)
Communications	* Ionospheric soundings * HF radio-communications	Livingston Island	2007-2009	J.L. Pijoan	(24)
Geomagnetism and Ionosphere	* Geomagnetic monitoring * Historical series	Livingston Island	2007-2009	J. M. Torta	(25)
Permafrost thermodynamics	* Permafrost * Energy balance * Modelling	Livingston Island, Deception Island	2007-2009	M. Ramos	(26)
Ozone layer	* O ₃ , NO ₂ , OClO distribution * Polar vortex dynamics * Satellite data validation	Marambio, Belgrano and Ushuaia	2007-2009	M. Yela	(27)

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PLANNED NEW PROGRAMMES/PROJECTS

GEOSCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Geodesy	* GPS observations * Deformation models	Deception Island	2008-2009	M. Berrocoso	(8)
Geophysics Seismology	* Seism-volcanic activity * Monitoring	Deception Island	2008-2009	I. Serrano	(28)
Geology	* Paleomagnetism * Hydrothermal activity * Lithosphere evolution	Deception Island	2008-2009	A. Maestro	(29)
Marine Geology	* Continental margins * Glacial erosion	Antarctic Peninsula	2008-2009	B. Alonso	(30)
Volcanology	* Gases and thermodynamic studies * Volcanic activity monitoring	Deception Island	2008-2009	N. Pérez-Rodríguez	(31)
Geology and Geomorphology	* Mapping * Geological maps	Marambio Island and Hope Bay area	2008-2009	M.J. Montes	(32)

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PLANNED NEW PROGRAMMES/PROJECTS

LIFE SCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Non marine aquatic ecosystems	* Biodiversity * Paleolimnology	Byers Peninsula (Livingston Island)	2008-2009	A. Quesada	(12)
Non marine aquatic ecosystems	* Biotic interactions * Limnology	Byers Peninsula (Livingston Island)	2008-2009	A. Camacho	(13)
Environmental impact	* Impact evaluation * Tourism impact	King George Island and Byers Peninsula (Livingston Island)	2008-2009	J. Benayas	(33)
Fishes studies	* Animal taxonomy * Zoarcidae (Teleostei)	Bellingshausen Sea	2008-2009	J. Matallanas	(34)
Non marine aquatic ecosystems	* Genetic biodiversity * Virology	Byers Peninsula (Livingston Island)	2008-2009	A. Alcamí	(35)
Molecular Biology	* Protein studies in fishes * Molecular adaptation to low temperatures	Nathaniel Palmer	2008-2009	J.M. Valpuesta	(36)
Penguin studies	* Penguin response to climate effects * Response to parasites	Deception and Livingston islands, Potter Cove. Ronge, Yalour and Avian islands	2008-2010	A. Barbosa	(15)

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PLANNED NEW PROGRAMMES/PROJECTS

Benthos ecology	* Biological sampling * Macroinvertebrates study * Climate change effects	South Bay (Livingston Island) and Port Foster (Deception Island)	2008-2010	M. Lastra	(37)
Seaweed studies	* Macroalgae adaptation * Metabolism response to climate changes	Jubany station (King George Island)	2008-2010	F.J. López-Gordillo	(38)
Chemical ecology	* Natural products * Marine benthos * Taxonomy and biodiversity	Deception Island	2008-2010	C. Ávila	(39)

PHYSICAL SCIENCES

Subject	Investigation	Locality	Duration	Principal Investigator	Address
Physical Oceanography	* Antarctic circumpolar current * Shelf slope interactions study	Southern Scotia Sea	2008-2009	D. Gomis	(6)
Permafrost thermodynamics	* Permafrost drilling * Energy balance * Monitoring	Juan Carlos I and Gabriel de Castilla stations	2008-2009	M. Ramos	(26)
Permafrost thermodynamics	* Active layer * Heat transfer Abel equations	Deception Island	2008-2009	M.J. Rodríguez - Arias	(18)

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Glacier thermo-mechanical processes	* Ice radar * Numerical simulation * Hydrological regime	Livingston Island	2008-2009	F. Navarro	(7)
Atmosphere chemistry	* Marine aerosols * Organic contaminants	Southern ocean	2008-2009	J. Dachs	(40)
Glaciology	* Glacier melting monitoring * Hydrological discharge	Vernadsky, Novolazarevskay, and Jubany stations	2008-2010	M.C. Domínguez	(19)

**CONTACT ADDRESSES, TELEPHONE,
FACSIMILE AND E-MAIL NUMBERS**

- (1) Jerónimo LÓPEZ-MARTÍNEZ
Dpto. Geología y Geoquímica
Facultad de Ciencias
Universidad Autónoma de Madrid
Ctra. Colmenar Viejo km 15
E-28049 Madrid
Tel.: 34 91 497 45 13
Fax: 34 91 497 29 82
e-mail: jeronimo.lopez@uam.es
- (2) Jesús GALINDO-ZALDIVAR
Dpt. Geodinámica
Universidad de Granada
E-18071 Granada
Tel.: 34 958 24 33 49
Fax: 34 958 24 85 27
e-mail: jgalindo@ugr.es
- (3) José Abel FLORES
Dept. Geología
Facultad de Ciencias
Universidad de Salamanca
E-37008 Salamanca
Tel.: 34 923 294497
Fax: 34 923 294514
e-mail: flores@usal.es
- (4) Leopoldo G. SANCHO
Dpto. Biología Vegetal II
Facultad de Farmacia
Universidad Complutense de Madrid
Ciudad Universitaria, s/n
E-28040 Madrid
Tel.: 34 91 394 17 69 / 394 17 71
Fax: 34 91 394 17 74
e-mail: sancholg@farm.ucm.es
- (5) Carles PEDRÓS
Dpt. Biología Marina y Oceanografía
Instituto de Ciencias del Mar, CSIC
Passeig Maritim de la Barceloneta, 37-49
E-08003 Barcelona
Tel.: 34 93 230 95 97/ 93 230 95 00
Fax: 34 93 230 95 55
e-mail: cpedros@icm.csic.es
- (6) Damià GOMIS
Departamento de Física
IMEDEA (Instituto Mediterráneo de
Estudios Avanzados)
Universitat de les Illes Balears - CSIC
E-07071 Palma de Mallorca
Tel: 34 971 17 32 36
Fax: 34 971 17 34 26
e-mail: damia.gomis@uib.es
- (7) Francisco NAVARRO
Dpto. Matemática Aplicada
ETSI de Telecomunicaciones
Universidad Politécnica de Madrid
Ciudad Universitaria, s/n
E-28040 Madrid
Tel.: 34 91 453 35 65
Fax: 34 91 336 72 89
e-mail: fnv@mat.upm.es
- (8) Manuel BERROCOSO
Dpto. Matemáticas
Facultad de Ciencias
Universidad de Cádiz
E-11510 Puerto Real, Cádiz
Tel.: 956016473
Fax: 34 956 01 62 88
e-mail: manuel.berrocoso@uca.es
- (9) Jesús IBÁÑEZ
Instituto Andaluz de Geofísica
Campus de Cartuja s/n.
E-18071-Granada
Tel.: 34 958 24 89 10
Fax: 34 958 16 09 07
e-mail: ibanez@ugr.es
- (10) Carlota ESCUTIA
Instituto Andaluz de Ciencias de la Tierra
CSIC- Universidad de Granada
Facultad de Ciencias
Fuentenueva s/n. Campus Universitario
E-18002 Granada
Tel.: 34 958 24 05 04
Fax: 34 958 24 33 84
e-mail: cescutia@ugr.es
- (11) Francisco Javier ALMENDROS
Instituto Andaluz de Geofísica
Universidad de Granada
Campus de la Cartuja
E-18071 Granada
Tel:34 958 249 552
Fax: 34 958 160 907
e-mail: alm@ugr.es
- (12) Antonio QUESADA
Departamento de Biología
Facultad de Ciencias
Universidad Autónoma de Madrid
Ctra. Colmenar Viejo km 15
E-28049 Madrid
Tel.: 34 91 497 81 81
Fax: 34 91 497 83 44
e-mail: antonio.quesada@uam.es

- (13) Antonio CAMACHO
Departamento de Microbiología y Ecología
Facultad de Biología
Instituto Cavanilles de Biodiversidad y
Biología Evolutiva
Universitat de Valencia
Campus Paterna; edif. Institut. apdo.22085,
E- 46071 Valencia
Tel.: 963543935
Fax: 963544570
e-mail: antonio.camacho@uv.es
- (14) Carlos DUARTE
Dpto. de Recursos Naturales
Instituto Mediterráneo de Estudios
Avanzados, CSIC
Miquel Marqués, 21
E-07190 Esporles, Mallorca
Tel.: 34 971 611 725
Fax: 34 971 611 761
e-mail: cduarte@uib.es
- (15) Andrés BARBOSA
Estación Experimental de Zonas Áridas,
CSIC
General Segura, 1
E-04001 Almería
Tel.: 34 950 281 045
Fax: 34 950 277 100
e-mail: barbosa@eeza.csic.es
- (16) Enrique ISLA
Dpto. Geología Marina y Oceanografía
Instituto de Ciencias del Mar, CSIC
Paseo Marítimo de la Barceloneta, 37-49
E-08003 Barcelona
Tel: 932309500
Fax: 932309555
e-mail: isla@icm.csic.es
- (17) Emilio ORTEGA
Departamento Ecología Continental
Centro de Estudios Avanzados de Blanes
(CEAB), CSIC
Acceso a la Casla Sant Francesc 14,
E-17300 Blanes, Gerona
Tel.: 972336101 ext: 246
Fax: 972337806
e-mail: casamayor@ceab.csic.es
- (18) Mariano José RODRÍGUEZ-ARIAS
Dpto. de Matemáticas
Facultad de Ciencias
Universidad de Extremadura
Avda. Elvas s/n
E-06071 Badajoz
Tel.: 34 924 289300 ext. 9138
Fax: 34 924 272911
e-mail: arias@unex.es
- (19) M^a del Carmen DOMÍNGUEZ
Dpto. Matemática Aplicada
ETSI Industriales
Universidad de Salamanca
Avda. Fernández Ballesteros, 2, Béjar
E-37700-Salamanca
Tel.: 923408080 (ext. 2223)
Fax 923408127
e-mail: karmenka@usal.es
- (20) Alicia GARCÍA
Departamento de Volcanología
Museo Nacional de Ciencias Naturales,
CSIC
José Gutiérrez Abascal, 2
E-28006, Madrid
Tel: 914111328, ext: 1186
Fax: 915644740
e-mail: aliciag@mncn.csic.es
- (21) Manuel CATALÁN-MOROLLÓN
Sección de Geofísica
Real Instituto y Observatorio de la Armada
Plaza de las Marinas
E-11110, Cádiz
Tel: 956599000, ext: 35593
Fax: 956599366
e-mail: mcatalan@roa.es
- (22) Antonio SEGURA
Dpto. Química Analítica
Universidad de Granada,
Avenida Fuentenueva s/n
E-18071, Granada
Tel: 958243296
Fax: 958249510
e-mail: ansegura@ugr.es
- (23) Rafael SIMÓ
Instituto de Ciencias del Mar
Centro Superior de Estudios Marinos y
Medioambientales, CSIC
Paseo Marítimo de la Barceloneta
E-08003 Barcelona
Tel: 932309590
Fax: 932309555
e-mail: rsimo@icm.csic.es
- (24) Juan Luis PIJOAN
E. T. S. de I. Electrónica e Informática La Salle
Passeig Bonanova, 8
E-08022 Barcelona
Tel.: 34 93 290 24 00
Fax: 34 93 290 24 16
e-mail: joanp@salleurl.edu

- (25) J. Miquel TORTA
Observatorio de Física C3smica del Ebro
E-43520 Roquetes, Tarragona
Tel.: 34 977 500 511
Fax: 34 977 504 660
e-mail: jmtorta@obsebre.es
- (26) Miguel RAMOS
Dpto. de F3sica
Facultad de Ciencias
Universidad de Alcal3 de Henares
Ctra. Madrid-Barcelona km 33,600
E- 28871 Alcal3 de Henares, Madrid
Tel.: 34 91 885 49 17
Fax: 34 91 885 49 42
e-mail: miguel.ramos@uah.es
- (27) Margarita YELA
Instituto Nacional de T3cnica Aeroespacial
Ctra. de Ajalvir km 4
E-28850 Torrej3n, Madrid
Tel.: 34 91 520 12 20
Fax: 34 91 520 13 17
e-mail: yelam@inta.es
- (28) Inmaculada SERRANO
Instituto Andaluz de Geof3sica
Universidad de Granada
Campus Universitario de Cartuja s/n
Granada, 18071-GRANADA
Tel: 958248912
Fax: 958160907
e-mail: inma@iag.ugr.es
- (29) Adolfo MAESTRO
Instituto Geol3gico y Minero de Espa3a
R3os Rosas, 23
E-28003 Madrid
Tel.: 917287260
Fax: 917287202
e-mail: a.maestro@igme.es
- (30) Bel3n ALONSO
Dpto. de Geolog3a Marina
Instituto de Ciencias del Mar (ICM), CSIC
Paseo Maritim de la Barceloneta, 37-49
E-08039 Barcelona
Tel.: 932309500, ext.: 1162
Fax: 932309555
e-mail: belen@icm.csic.es
- (31) Nemesio P3REZ
Divisi3n de Medio Ambiente
Fundaci3n Canaria Iter
Pol. Industrial de Granadilla s/n
Granadilla de Abona
E-38611 Santa Cruz de Tenerife
Tel.: 922391000 ext: 25
Fax: 922391001
e-mail: perez@iter.es
- (32) Manuel MONTES
Instituto Geol3gico y Minero de Espa3a
R3os Rosas, 23
E-28003 Madrid
Tel.: 917287244
Fax: 917287202
e-mail: m.montes@igme.es
- (33) Javier BENAYAS
Dpto. Ecolog3a
Facultad de Ciencias
Universidad Aut3noma de Madrid
Cantoblanco
E-28049 Madrid
Tel.: 914974959
Fax: 914978643
e-mail: javier.benayas@uam.es
- (34) Jes3s MATALLANAS
Dpto. Biolog3a Animal, Biolog3a Vegetal y
Ecolog3a
Universidad Aut3noma de Barcelona
Campus Universitaria
Sant Juli3 de Cerdanyola
E-08193 Barcelona
Tel.: 935811868
Fax: 935811321,
e-mail: jesus.matallanas@uab.es
- (35) Antonio ALCAM3
Departamento de Virolog3a y Microbiolog3a
Centro de Biolog3a Molecular
Severo Ochoa (CBM), CSIC
Fac. Ciencias, Cantoblanco
E-28049 Madrid
Tel.: 628714395
Fax: 914974799
e-mail: aalcami@cbm.uam.es
- (36) Jos3 Mar3a VALPUESTA
Centro Nacional de Biotecnolog3a (CNB)
Dpto. Estructuras Moleculares
Darwin, 3
E-28049 Madrid
Tel.: 917287244
Fax: 917287202
e-mail: jmv@cnb.uam.es
- (37) Mariano LASTRA
Dpto. Ecolog3a y Biolog3a animal
Universidad de Vigo
Campus Lagoas Marcosende, Vigo
E-36310 Pontevedra
Tel.: 986812588
Fax: 986812556
e-mail: mlastra@uvigo.es

(38) Francisco Javier LÓPEZ-GORDILLO
Departamento de Ecología y Geología
Universidad de Málaga
Facultad de Ciencias
Campus Teatinos s/n
E-29071 Málaga
Tel.: 952132385
Fax 952137386
e-mail: gordillo@uma.es

(39) Conxita AVILA
Dpto. Ecología Acuática
Unidad de Ciencias Marinas Operacionales
y Sostenibilidad
Centro de Estudios Avanzados (CEAB), CSIC
Accés a la Cala Sant Francesc 14, Blanes
E-7300 Gerona
Tel.: 972336101 (ext. 263)
Fax: 972337806
e-mail: conxita@ceab.csic.es

(40) Jordi DACHS
Instituto de Investigaciones Químicas y
Ambientales J.P. Vila (IIQA), CSIC
Jordi Girona Salgado 18-34
E-08034 Barcelona,
Tel: 34 93 400 61 18
Fax: 34 93 204 59 04
e-mail: jdmgam@cid.csic.es