

**REPUBBLICA ITALIANA**  
**MINISTERO DELL'ISTRUZIONE, DELL'UNIVERSITA' E DELLA RICERCA**

## **REPORT TO SCAR**

**No. 22 – 2010**

**Record of Activities July 1, 2009 - June 30, 2010**

**on behalf of  
The Italian National Scientific Commission  
for Antarctic Research**

**ANT 10/01**

<b>MEMBER COUNTRY:</b> National Report to SCAR for year 2010 (1st July 2009- 30th June 2010)	<b>ITALY</b>					
<b>Activity</b>	<b>Contact Name</b>	<b>Address</b>	<b>Telephone</b>	<b>Fax</b>	<b>Email</b>	<b>web site</b>
<b>National Committee</b>						
Commissione Scientifica Nazionale per l'Antartide	Carlo Alberto Ricci, Chairman	Ministero dell'Istruzione dell'Università e della Ricerca (MIUR) - Piazzale Kennedy, 20 - 00144 Roma	+39-06- 58497779	+39-06-58497587	segreteria@csna.it	http://www.csna.it/
<b>SCAR Delegates</b>						
<b>1) Permanent Delegate</b>	Antonio Meloni	INGV - Via di Vigna Murata, 605 - 00143 Roma	+39-06- 51860317	+39-06-51860397	meloni@ingv.it	http://www.ingv.it/
<b>2) Alternate Delegate</b>	Carlo Alberto Ricci	Università di Siena - Dip. di Scienze della Terra - Via Laterina, 8 - 53100 Siena	+39-0577- 233818	+39-0577-233817	riccica@unisi.it	http://www.dst.unisi.it/
<b>SCAR Executive Committee</b>						
<b>1) Vice - President</b>	Antonio Meloni	INGV - Via di Vigna Murata, 605 - 00143 Roma	+39-06- 51860317	+39-06-51860397	meloni@ingv.it	http://www.ingv.it/
<b>SCAR Standing Scientific Groups</b>						
<b>Life Sciences</b>						
<b>1) Member</b>	Guido di Prisco	CNR - IBP - Via Pietro Castellino, 111 - 80131 Napoli	+39-081- 6132710	+39-081-6132710	g.diprisco@ibp.cnr.it	
<b>2) Member</b>	Pierangelo Luporini	Università di Camerino - Dip. di Biologia Molecolare, Cellulare e Animale - Via F. Camerini, 2 - 62032 Camerino (MC)	+39-0737- 403229	+39-0737-636216	piero.luporini@unicam.it	
<b>3) Member</b>	Sergio Pillon	Azienda Ospedaliera "S. Camillo-Forlanini" - Ospedale S. Camillo - Divisione di Angiologia -Reparto "Flaianini" Circ.ne Gianicolense, 87 - 00152 Roma	+39-06- 58704599	+39-06-62276161	pillon@mclink.it	

<b>Geosciences</b>						
<b>1) Chief Officer</b>	Alessandro Capra	DIMec Dept. - University of Modena and Reggio Emilia - Via Vignolese 905 - 41100 Modena	+39-338-6893276	+39-059-2056126	<a href="mailto:capra.alessandro@unimore.it">capra.alessandro@unimore.it</a>	
<b>2) Member</b>	Roberto Cervellati	Consorzio PNRA c/o ENEA CR Casaccia – Via Anguillarese, 301 - 00123 Roma	+39-06-30484938	+39-06-30484893	<a href="mailto:roberto.cervellati@consorzio.pnra.it">roberto.cervellati@consorzio.pnra.it</a>	
<b>3) Member</b>	Claudio Ghezzi	Università di Siena - Dip. di Scienze della Terra - Via Laterina, 8 - 53100 Siena	+39-0577-233928	+39-0577-233938	<a href="mailto:ghezzi@unisi.it">ghezzi@unisi.it</a>	<a href="http://www.dst.unisi.it/">http://www.dst.unisi.it/</a>
<b>4) Member</b>	Andrea Morelli	INGV - Sez. di Bologna - Via Donato Creti, 12 - 40128 Bologna	+39-051-4151424	+39-051-4151498	<a href="mailto:morelli@bo.ingv.it">morelli@bo.ingv.it</a>	<a href="http://www.ingv.it/">http://www.ingv.it/</a>
<b>Physical Sciences</b>						
<b>1) Chief Officer</b>	Maurizio Candidi	INAF - IFSI - Via del Fosso del Cavaliere, 100 - 00133 Roma	+39-06-49934562	+39-06-49934383	<a href="mailto:maurizio.candidi@ifsi-roma.inaf.it">maurizio.candidi@ifsi-roma.inaf.it</a>	
<b>2) Member</b>	Michele Colacino	CNR - Viale dell'Università 11 - 00185 Roma	+39-06-49380464 +39-06-49934320	+39-06-44702989 +39-06-20660291	<a href="mailto:m.colacino@isac.cnr.it">m.colacino@isac.cnr.it</a> <a href="mailto:michele.colacino@rm.cnr.it">michele.colacino@rm.cnr.it</a>	
<b>3) Member</b>	Massimo Frezzotti	ENEA - ACS-CLIMOSS - S.P. Anguillarese, 301 - 00123 Santa Maria di Galeria, Roma	+39-06-30483271	+39-06-30486678	<a href="mailto:frezzotti@casaccia.enea.it">frezzotti@casaccia.enea.it</a>	
<b>4) Member</b>	Giancarlo Spezie	Università di Napoli "Parthenope" - Dip.to di Scienze per l'Ambiente - Centro Direzionale, Isola C4, 80133 Napoli	+39-081-5476586	+39-081-5476515	<a href="mailto:spezie@uniparthenope.it">spezie@uniparthenope.it</a>	

Activity	Contact Name	Address	Telephone	Fax	Email	web site
<b>Scientific Research Program</b>						
<b>ACE</b>						
<b>1) Member</b> (Planning Group Middle Miocene, Pliocene Sub-Programme)	Fabio Florindo	INGV - Via di Vigna Murata, 605 - 00143 Roma	+39-06-51860383	+39-06-51860397	florindo@ingv.it	<a href="http://www.ingv.it">http://www.ingv.it</a>
<b>2) Member</b> (RES Sub-Programme)	Ignazio Tabacco	Univ. di Milano-Dip.to Scienze della Terra-Sez.Geofisica-Via Cicognara 7-20129 Milano	+39-0250318475	+39-027490588	ignazio.tabacco@unimi.it	
<b>AGCS</b>						
<b>1) Member</b>	Massimo Frezzotti	ENEA - ACS-CLIMOSS - S.P. Anguillarese, 301 - 00123 Santa Maria di Galeria, Roma	+39-0630483271	+39-0630486678	frezzotti@casaccia.enea.it	
<b>2) Member</b>	Enrico Zambianchi	Ist.Universitario Navale-Fac.Sienze Nautiche-Ist.Meteorologia e Oceanografia-Via De Gasperi 5-80133 Napoli	+39-0815475731	+39-0815513679	enrico@nava1.uninav.it	
<b>EBA</b>						
<b>1) Co-Chairman</b>	Guido di Prisco	CNR - IBP - Via Pietro Castellino, 111 - 80131 Napoli	+39-0816132710	+39-0816132710	g.diprisco@ibp.cnr.it	
<b>2) Member</b>	Carlo Barbante	CNR/CSCTA c/o Dip. Scienze Ambientali, Univ. di Venezia, Calle Larga Santa Marta 2137, Dorsoduro, 30123 Venezia	+39-0412578542	+39-0412578549	barbante@unive.it	
<b>ICESTAR</b>						
<b>1) Steering Committee</b>	Maurizio Candidi	INAF - IFSI - Via del Fosso del Cavaliere, 100 - 00133 Roma	+39-0649934562	+39-0649934383	maurizio.candidi@ifsi.rm.cnr.it	
<b>SALE</b>						
<b>1) Member</b>	Ignazio Tabacco	Univ. di Milano-Dip.to Scienze della Terra-Sez.Geofisica-Via Cicognara 7-20129 Milano	+39-0250318475	+39-027490588	ignazio.tabacco@unimi.it	
<b>2) Member</b>	Cesidio Bianchi	INGV - Via di Vigna Murata, 605 - 00143 Roma	+39-0651860326	+39-065041181	bianchi@ingv.it	
<b>3) Member</b>	Francesco Salvini	Univ. Roma3, Dip. Scienze Geologiche, Largo S. Leonardo Murialdo 1, 00146 Roma	+39-0654888031	+39-0654888201	salvini@uniroma3.it	
<b>4) Member</b>	Emanuele Bozzo	Univ. di Genova, DIPTERIS, Viale Benedetto XV, 5, 16132 Genova	+39-0103538095	+39-0103538095	bozzo@dipteris.unige.it	
<b>5) Member</b>	Giuliano Brancolini	OGS/GdL, Borgo Grotta gigante 42c, 34016 Sgonico (TS)	+39-0402140241	+39-040327307	gbrancolini@ogs.trieste.it	
<b>6) Member</b>	Roberto Udisti	Univ. di Firenze, Dip. Chimica, Via Lastruccia 5, 50019 Sesto Fiorentino (FI)	+39-0554573251	+39-0554573385	udisti@cesit1.unifi.it	

Activity	Contact Name	Address	Telephone	Fax	Email	web site
<b>ACTION GROUPS</b>						
1) PASTA - Member	Maurizio Candidi	INAF - IFSI - Via del Fosso del Cavaliere, 100 - 00133 Roma	+39-0649934562	+39-0649934383	maurizio.candidi@ifsi-roma.inaf.it	
2) ECA - Chairman	Paolo Cescon	Univ. di Venezia, Dip. Scienze Ambientali, Calle Larga Santa Marta 2137, Dorsoduro, 30123 Venezia	+39-0412578505	+39-0412578549	cescon@unive.it	
3) ECA - Co-chairman	Gabriele Capodaglio	Univ. di Venezia, Dip. Scienze Ambientali, Calle Larga Santa Marta 2137, Dorsoduro, 30123 Venezia	+39-0412578542	+39-0412578584	capoda@unive.it	
4) ECA - Member	Roger Fuoco	Univ. di Pisa, Dip. Chimica e Chim. Industriale, Via Risorgimento 35, 56126 Pisa	+39-050918254	+39-050918260	fuoco@dcci.unipi.it	
<b>EXPERT GROUPS</b>						
1) ADMAP (SSG-GS)	Emanuele Bozzo	Univ. di Genova, DIPTERIS, Viale Benedetto XV, 5, 16132 Genova	+39-0103538095	+39-0103538095	bozzo@dipteris.unige.it	
2) ADMAP (SSG-GS)	Massimo Chiappini	INGV, UdP, Via di Vigna Murata, 605, 00143 Roma	+39-0651860313	+39-0651860397	chiappini@ingv.it	<a href="http://www.ingv.it/">http://www.ingv.it/</a>
3) ADMAP (SSG-GS)	Angelo De Santis	INGV, Via di Vigna Murata, 605, 00143 Roma	+39-0651860327	+39-065041181	desantisag@ingv.it	<a href="http://www.ingv.it/">http://www.ingv.it/</a>
4) ADMAP (SSG-GS)	Antonio Meloni	INGV - Via di Vigna Murata, 605 - 00143 Roma	+39-0651860317	+39-0651860397	meloni@ingv.it	<a href="http://www.ingv.it/">http://www.ingv.it/</a>
5) ADMAP (SSG-GS)	Egidio Armadillo	Univ. di Genova, DIPTERIS, Viale Benedetto XV, 5, 16132 Genova	+39-0103538092	+39-0103538095	magne@dipteris.unige.it	
6) PPE - Co-chairman (SSG-GS)	Mauro Guglielmin	Univ. dell'Insubria, Dip. Biologia strutturale e funzionale, Via J.H. Dunant 3, 21100 Varese	+39-0332421412	+39-0332421330/1	mauro.guglielmin@uninsubria.it	

<b>Standing Committee on Antarctic Geographic Information (SC-AGI)</b>						
<b>1) National Representative</b>	Roberto Cervellati	Consorzio PNRA c/o ENEA CR Casaccia – Via Anguillarese, 301 - 00123 Roma	+39- 0630484938	+39-06-30484893	<a href="mailto:roberto.cervellati@consorzio.pnra.it">roberto.cervellati@consorzio.pnra.it</a>	
<b>2) Expert on Geographic Names</b>	Maria Chiara Ramorino	Consorzio PNRA c/o ENEA CR Casaccia – Via Anguillarese, 301 - 00123 Roma	+39- 0630483130	+39-06-30484893	<a href="mailto:chiara.ramorino@consorzio.pnra.it">chiara.ramorino@consorzio.pnra.it</a>	
<b>JCADM</b>						
<b>1) Member</b>	Claudio Rafanelli	International Center for Earth Sciences c/o CNR, Istituto Corbino, Area Ricerca Tor Vergata, Via del Fosso del Cavaliere, 100. 00133 Roma	+39- 0649934284	+39-06-20660061	<a href="mailto:c.rafanelli@e-ices.eu">c.rafanelli@e-ices.eu</a>	
<b>NATIONAL ANTARCTIC DATA CENTRE: SIRIA (Sistema Informativo Ricerche Italiane in Antartide)</b>	Claudio Rafanelli	International Center for Earth Sciences c/o CNR, Istituto Corbino, Area Ricerca Tor Vergata, Via del Fosso del Cavaliere, 100. 00133 Roma	+39- 0649934284	+39-06-20660061	<a href="mailto:c.rafanelli@e-ices.eu">c.rafanelli@e-ices.eu</a>	
<b>Composite Gazetteer of Antarctica, CGA</b>	Roberto Cervellati	Consorzio PNRA c/o ENEA CR Casaccia – Via Anguillarese, 301 - 00123 Roma	+39- 0630484938	+39-0630484893	<a href="mailto:roberto.cervellati@consorzio.pnra.it">roberto.cervellati@consorzio.pnra.it</a>	
<b>Composite Gazetteer of Antarctica, CGA</b>	Maria Chiara Ramorino	Consorzio PNRA c/o ENEA CR Casaccia – Via Anguillarese, 301 - 00123 Roma	+39- 0630483130	+39-0630484893	<a href="mailto:chiara.ramorino@consorzio.pnra.it">chiara.ramorino@consorzio.pnra.it</a>	
<b>SCAR - IPY</b>						
<b>Marine Biology - Member</b>	Cinzia Verde	CNR - IBP - Via Pietro Castellino, 111 - 80131 Napoli	+39- 0816132710	+39-0816132710	<a href="mailto:c.verde@ibp.cnr.it">c.verde@ibp.cnr.it</a>	

**A BRIEF SUMMARY OF  
SCIENTIFIC HIGHLIGHTS:**

**Observatory activities** - Since the '80s Italy keeps running a set of observatories for long-term recording of physical variables. In time the initial set has been enlarged. The following quantities are among those monitored: geomagnetic field, remote and local seismic activity, meteorological data, lower atmosphere composition, special attention being paid to aerosols and ozone, ionosphere and stratosphere characteristics, mean sea level (tide). The stratosphere is mainly sounded by LIDAR. Data are used for specific research as well as for collection into international databases. Measurements are carried out at Terra Nova Bay, Dome-C and other stations in the framework of other national programmes. During summer season 2009-10, in spite of an overall shrinkage of the expedition size, attention has been paid not to shrink the observatory activities in order to avoid a gap in the historical series of data. More on observatories in the specific highlights below.

**Geodesy** - An extensive network based on GPS stations covers a large area (about 700 km long, 300 km wide) of Victoria Land. It is aimed at the repetitive crustal deformation control and the assessment of any continental drift. The network, called VLNDEF, comprises about 30 stations and is integrated with other international networks such as TAMDEF and IPY's POLENET. Data from several stations, including the new ones located at Cape Phillips and Cape Hallett, have been retrieved.

**Glaciology and Climate Studies** - Climate of the Antarctic continent has an outstanding importance both locally and at planetary level. The solar radiation balance and the atmospheric composition at ground level are a necessary input for any mathematical model of the climate. They are monitored at Dome-C and Terra Nova Bay. At Dome-C a station of the Baseline Surface Radiation Network (BSRN) is in operation. At Terra Nova Bay (Campo Icaro), where aerosols and solar radiation have been monitored since decades, an automatic radiation monitor has been set up to operate in winter. Local snowpack ablation/accumulation annual rates are monitored at Talos Dome, High Priestley Glacier, Larsen Glacier by stake fields. In connection with the Antarctic paleoclimate, and more specifically with the relationship between the East Antarctica ice-cap evolution and Northern Victoria Land, geomorphological observation, sampling and radio-dating of glacial deposits and relict surfaces are carried on.

**Permafrost** - A permafrost monitoring network is operative along a Victoria Land transect. A new checkpoint has been set up at Prior Island.

**Geomagnetism and Ionospheric Phenomena** - A number of scientific instruments are installed in the Antarctic auroral region for the study of ionosphere and magnetosphere. They include: the Kerguelen's SuperDARN HF radar (a French-Italian collaboration for an ionosphere sounding network), an all-sky camera at Mario Zucchelli Station (MZS) for recording auroras, magnetometers at MZS and Concordia Station, an ionosonde and 2 relative ionospheric opacity (rio-) meters at MZS. The ionospheric scintillation monitored by a GPS receiver at Concordia Station is correlated with similar measurements carried out at MZS and at northern latitudes as well (Svalbard Islands).

**Biology** - Studies on molecular biology and the mechanism of oxygen transport in Antarctic fishes are going on.

**Marine Biology** - Studies on the *Pleuragramma antarcticum* are carried on at Silverfish Bay with sampling of embryonic forms and eggs. Large sponges are studied and sampled with the help of a fish-hut and scuba diving in Tethys Bay. Several activities are part of the joint international effort LGP (Latitudinal Gradient Project).

**Marine Biology / Penguins** - The long term monitoring and census programme of the *Pygoscelis adeliae*'s colony at Edmonson Point has been continued. The activity is in the framework of the CCAMLR Ecosystem Monitoring Program.

**Meteorites** - 28 specimens have been collected at Allan Hills and Frontier Mountain. Micrometeorites and microtektites have also been collected.

**Astronomical observations** - The low temperature and humidity level, low turbidity of the atmosphere plus darkness in winter promise to make Concordia Station the ideal place for any kind of astronomical observation. The main programmes carried on there are OASI-COCHISE, IRAIT and BRAIN. The first programme presently aims at the site qualification for the millimetric wave-lengths, a new photometer allowing the measurement of the atmospheric transmission and sky noise in that range. In the framework of the International Robotic Antarctic Infrared Telescope (IRAIT) a new camera (AMICA) has been set up which should obtain the first infrared images of winter sky during 2010. BRAIN may be seen as the continuation of the successful measurements carried out by a balloon-borne telescope (Boomerang experiments, 1998 & 2003) but benefits here of a ground based bolometric interferometer for the detection of non-uniformities in the microwave component of the CBR. Also in this case a preliminary assessment of all effects which may impair the ultimate sensitivity is essential. Additional projects carried out by non-Italian teams at Concordia to be accounted for by other National Reports.