

**The Royal Academies of Science and the Arts of Belgium
BELGIAN NATIONAL COMMITTEE ON ANTARCTIC RESEARCH**

**ANNUAL REPORT TO SCAR
BELGIAN ANTARCTIC SCIENTIFIC ACTIVITIES
1 JULY 2003 – 30 JUNE 2004**

BELGIUM

Brussels, Belgium, June 2004

INTERNATIONAL COUNCIL FOR SCIENCE
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

**2004 ANNUAL REPORT TO SCAR ON
BELGIAN ANTARCTIC SCIENTIFIC ACTIVITIES
1 July 2003 - 30 June 2004 Record of Activities
1 July 2004 - 30 June 2005 Planned Activities**

Member Country **Belgium**

National SCAR Committee

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	Prof. Frank Dehairs	(4)
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Physical Sciences	Dr Hugue Goosse	(7)
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COMNAP Representative	Ms. Maaïke Van Cauwenberghe	(24)
SCALOP Representative	Prof. Tony Van Autenboer	(1)

Member Country **Belgium**

Permanent Stations (wintering)

None

Summer-only bases

None

Automatic Recording Stations/Observatories

None

Member Country **Belgium**

CURRENT PROJECTS BY SCIENTIFIC STANDING GROUP 2003 - 2004

Life Sciences

<i>Subject and Title</i>	<i>Investigation conducted</i>	<i>Locality</i>	<i>Duration</i>	<i>Principal Investigator</i>	<i>Address</i>
Marine Biogeochemistry	Air-sea CO ₂ exchange; Control of micro-nutrients availability on phytoplankton and bacterial growth; Multi-proxy approach to assess the biological carbon pump and fate of exported carbon; Coupling of 3D ocean – ice model to a complex biogeochemical model to estimate air-to-sea CO ₂ exchanges.	Seasonal Ice Zone of the Indian sector; Polar Front Zone of Atlantic sector	2001 - 2005	F. Dehairs C. Lancelot L. André H. Goosse M. Frankignoulle E. Deleersnijder	(4) (10) (11) (7) (12) (13)
Marine Biology	Biodiversity, biogeography, molecular phylogeny of amphipod crustaceans. Ecofunctional role in benthic systems. Biodiversity database (Ant'Phipoda).	Weddell Sea Scotia Sea Scotia Arc	2002 - 2005	C. De Broyer	(3)
Marine Biology	Stock sizes of meiobenthos, biodiversity of nematodes. Biodiversity database (NeMys).	Weddell Sea Scotia Sea Scotia Arc	2002 - 2005	A. Vanreusel	(16)
Marine Biology	Biodiversity of echinoids, symbiosis. Biodiversity database (Antarctic Echinoid).	Weddell Sea Scotia Sea Scotia Arc	2002 - 2005	C. De Ridder	(17)
Marine Biology	Benthos Food web structure and dynamics (stable isotopes, lipids analyses).	Weddell Sea Scotia Sea Scotia Arc	2002 - 2005	J.M. Bouquegneau P. Dauby	(27) (28)

Member Country **Belgium**

CURRENT PROJECTS BY SCIENTIFIC STANDING GROUP 2003 - 2004

Life Sciences (continuation)

<i>Subject and Title</i>	<i>Investigation conducted</i>	<i>Locality</i>	<i>Duration</i>	<i>Principal Investigator</i>	<i>Address</i>
Zooplankton and Ichthyoplankton Status, control and role of the pelagic diversity of the Austral Ocean (PELAGANT)	Biomass, diversity, trophic relations, recruitment and modelling	Ross Sea, Terre Adélie, Antarctic	2003-2006	J.H. Hecq	(14)
Limnology, paleo-ecology Late Quaternary climate history of coastal Antarctic environments: a multi-proxy approach (LAQUAN)	diatom ecology, paleo-ecological reconstructions using biological (i.e., fossil pigments, siliceous microfossils) and non-biological proxies in lake-sediment cores, pigment function of Antarctic lacustrine microbiota, past UVR reconstructions, changes in the relative sea level history, reconstruction of the history and dynamics of the George VI Ice Shelf	Larsemann Hills (East-Antarctica) and King George VI ice shelf (Alexander Island)	2001 - 2005	W. Vyverman	(19)
Terrestrial Biology Biodiversity - evolution in a temporal framework	Study of the present, past and future biodiversity of protists and phanerogames. Role of dispersion, colonization and resistance to climatic warming.	Île de la Possession (Crozet)	2004 - 2005	L. Beyens	(15)
Biochemistry Cold adaptations in Antarctic microorganisms	Biophysical studies of the activity, stability and conformation of enzymes from psychrophilic microorganisms	Terre Adélie, Dumont d'Urville station	2000-2004	G. Feller	(25)

CURRENT PROJECTS BY SCIENTIFIC STANDING GROUP 2003 - 2004

Geosciences

None

Member Country **Belgium**

CURRENT PROJECTS BY SCIENTIFIC STANDING GROUP 2003 - 2004

Physical Sciences

<i>Subject and Title</i>	<i>Investigation conducted</i>	<i>Locality</i>	<i>Duration</i>	<i>Principal Investigator</i>	<i>Address</i>
Glaciology Antarctic ice-sheet dynamics and climatic change	Modelling studies	South Victoria Land	2001 - 2005	H. Declerq	(2)
Glaciology Antarctic ice-sheet dynamics and climate change	Ice composition studies	South Victoria Land	2001 - 2005	R. Souchez	(18)
Neutrino Astrophysics Amanda / IceCube experiment	Galactic and extra-galactic neutrino detection using a ice-cherenkov telescope	Amundsen-Scott Base	1997 - 2015	D. Bertrand P. Herquet C. De Clercq	(20) (21) (22)
Climatology Climate evolution of the Southern Ocean during the last millennium	Modelling with a coupled atmosphere-ocean-sea-ice model	The whole Southern Ocean	2002 - 2007	H. Goosse	(7)
Physical Oceanography, climatology Modelling the evolution of the Southern Ocean and of its ice cover during the last 50 years	Modelling using a coupled ocean-sea-ice model driven by atmospheric reanalysis	The whole Southern Ocean	2002 - 2007	T. Fichefet H. Goosse	(23) (7)

PLANNED NEW PROJECTS BY SCIENTIFIC STANDING GROUP 2004 - 2005

All current projects – but one (see hereafter) – will continue through 2005.

Life Sciences

Biochemistry Cold adaptations in Antarctic microorganisms	Biophysical studies of the activity, stability and conformation of enzymes from psychrophilic microorganisms	Terre Adélie, Dumont d'Urville station	2005-2008	G. Feller	(25)
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Member Country **Belgium**

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