



**SCAR Group**

SG

Person

Responsible:

**PAIS**

PS

L Santis

## **SCAR Executive Committee Meeting 2017**

**Brno, Czech Republic, 31 July - 2 Aug 2017**

# **PAIS** **2016-2017 Report**

**Report Author(s): Laura De Santis and Tim Naish**

### **Summary of activities from 2016-17 and any other important issues or factors (<150 words):**

Significant new papers on past Antarctic ice sheet reconstructions and climate modelling have made significant contributions relevant to the next phase of IPCC over the past year.

Rob DeConto (US) and Andrew Mackintosh (NZ) have been selected as Lead Authors on the IPCC special report on the cryosphere and the ocean.

Tim Naish and Rob DeConto were invited to the scoping meeting of the IPCC special report on the impacts and mitigation pathways for stabilisation of global warming at 1.5C.

Tim Naish delivered the SCAR Science Lecture at the 40<sup>th</sup> ATCM in Beijing in May on "What the Paris Climate Agreement Means for Antarctica".

Laura DeSantis has put major effort into organizing and hosting the PAIS Conference this September in Trieste. More than 200 abstracts have been accepted from more than 17 countries and including 130 student and early career researchers. The conference will cover the latest scientific results in reconstructing Antarctic ice sheet response to warmer climates and model development for predicting future ice sheet contribution to sea-level rise. There is also a focus on interdisciplinarity and far field consequences of Antarctic climate and ice sheet change. On the last day we will host a science to policy session focusing on high-priority research areas for the future PAIS programme work plan. We have invited Valerie Masson-Delmotte (Co Chair of IPCC Working Group 1 for AR6), Chuck Kennicutt (coordinator of SCAR

Horizon Scan), and Yeadong Kim (co-coordinator of the ARC road map) to identify key scientific questions and the resources and co-operation required to address them.

This has been a highly successful year for developing future plans for data acquisition on the Antarctic continental margin with several large drilling expeditions worth USD \$100M approved within the International Ocean Discovery Program (Ross Sea, Amundsen Sea, Wilkes Land margin, Scotia Sea).

Rob McKay (NZ) and Laura DeSantis (Italy) have been appointed co-chief scientists on the IODP Ross Sea Expedition.

Karsten Gohl (Germany) is the lead proponent on the Amundsen Sea IODP Expedition and led a successful Amundsen Sea oceanographic and shallow sediment coring expedition on the RV Polarstern in 2017.

These IODP expeditions have been developed within the SCAR-PAIS Programme. PAIS has received praise from the IODP community for organising a clear strategic rationale for drilling on the Antarctic margin. These expeditions will provide much needed evidence of marine ice sheet instability and sensitivity under various past high CO<sub>2</sub> warmer worlds for different subglacial basins under the West and East Antarctic ice sheets.

Several cruises have been carried out by many nations with the aim of collecting site survey data for IODP expeditions 373, 374, 379 scheduled for 2018-2020 and for the other submitted-revised proposals for drilling the Antarctic margin post-2020.

PAIS provides grants to students and early-career scientists from countries developing their Antarctic programmes (Chile, Denmark, Ukraine) for attending the PAIS conference.

PAIS recruited Pamela Santibañez from Instituto Antártico Chileno (INACH, Chile), Mathieu Casado (LSCE and LIPhy, France) and Adam Campbell (Otago University, NZ) as APECS representatives on the PAIS steering committee.

We ask permission to use other PAIS funds, (ca. USD \$15,000 in addition to those that were already allocated to the conference) for allowing more students and early-career scientists to attend the conference.

**Recommendations that EXCOM and Scientific Group Chief Officers should consider (if any):** *Please indicate if approval is necessary or if they are just asked to note information.*

We seek permission from SCAR EXCOM to start developing the strategic direction of the “son of PAIS”. We believe our strategy that involves integrated data-model reconstructions of past Antarctic ice sheet behaviour under higher levels of radiative forcing relevant to future climate projections has made a

## PAIS 2016-2017 Annual Report, cont.

substantial impact within the international community and is policy relevant. There are still major outstanding questions on the processes that may lead to non-linear and rapid collapse of the Antarctic ice sheets. These are the cause of the “fat tail” probability distributions of future sea-level rise. Many of these research priorities were identified in the SCAR Horizon Scan and are of relevance to the next phase of IPCC assessment. The approach of developing and testing ice sheet and climate models against past warmer than present times, when significant contribution from the AIS is implicated in global sea-level rise, is still of the highest priority, e.g. 125,000 years ago, the world was 1°C warmer and sea-level was up to 9m higher, yet we have no direct evidence of how Antarctic ice contributed. Models suggest up to 5m. If this is the case then Antarctic ice sheets may be highly sensitive to very small increases in global average temperature.

Given the huge investment that the IODP is putting into Antarctic margin geological drilling over the next three years, we would like EXCOM / SCAR president to write a letter to the Chairs of the IODP Facilities Board, Science Evaluation Panel and Forum to express our appreciation. Tim Naish will write a draft for Steven Chown.

We believe that the PAIS conference would benefit from the large participation of motivated young scientists to better plan the future Geoscience programme after PAIS.

We have received many requests for travel grants from young scientists and students from many countries to attend the PAIS conference that we are not able to fully satisfy with the PAIS allocated funds, even considering other funding resources. Therefore, we ask permission to use other PAIS funds, (ca. USD \$15,000 in addition to those that were already allocated to the conference) for allowing more students and early-career scientists to attend the conference. The funds are available because PAIS has carried forward all remaining 2016 funds into 2017 to support this major meeting. The 2017 budget for PAIS is \$21,000 giving presently a total of \$41,057. In the event that we use ca. \$35,000 for the PAIS conference, we will still have funds for supporting other initiatives before the end of 2017, if there are requests. We have not received any request for other conferences or schools this year yet.

## Progress and Plans:

### Major Activities and Significant Progress from the past year (<500 words):

Past Antarctic ice sheet and climate modelling have contributed significantly to progress over the past year. Galeotti et al. (2016) have shown that the Antarctic ice sheet reached a continental size when atmospheric CO<sub>2</sub> dropped below 600 ppm at the end of Oligocene. Gasson et al. (2016) show that under Miocene interglacial conditions (CO<sub>2</sub> at ~ 500 ppm), the WAIS collapses but the EAIS remains almost completely glaciated. In the Miocene the bathymetry should have been necessarily shallower, which is supported by the few existing seismic reconstructions for this period. Bart et al. (2016) show that the Ross Sea continental shelf morphology influences the way the ice sheet flows. Regional climate and ice sheet simulations of the mid-Pliocene by Scherer et al. (2016) suggest that several major drainage basins (Wilkes, Aurora, Amery, George V) might have been ice free. Gasson et al. (2016) calculate that during the mid-Pliocene, the AIS might have lost no more than 13 m SLE (cf. 15 - 20 m SLE suggested so far). DeConto and Pollard (2016) carried out projections up to 2500, tuning the model to mid-Pliocene and last interglacial sea-level rise. Their results suggest a maximum contribution of 15 m SLE by 2500 in the worst case and that the impact of the warming ocean is one of the main factors driving collapse in the future. Colleoni et al (2016) suggest that the development of the Pacific cold tongue through the Plio/Pleistocene transition strengthened the influence of teleconnections (supported by proxies) and led to a rearrangement of the moisture flux pathways over Antarctica being particularly favorable to the EAIS re-expansion after the warm mid-Pliocene.

A new analysis of the Dome Fuji ice core in Antarctica shows a high degree of climate instability within glacial periods with intermediate temperatures (Kawamura et al., 2017 Science Advances). This instability was attributed primarily to global cooling caused by a reduced greenhouse effect. Moreover, snow accumulation effects on gravity measurements are evaluated for detecting GIA at the Syowa Station, East Antarctica.

Several marine cruises have been carried out in the 2016-17 field season related to PAIS:

- The EUROFLEETS – Antarctic ice Sheet Stability from continental Slope process investigation (ANTSSS) project, led by Jenny Gales (NOC, UK), in the Ross Sea on RV OGS Explora (Ross Sea), within the Italian PNRA-funded Antarctic cruise programme and the Italian PNRA projects Ocean DYNAMICS from the Sediment drifts of the Ross SEA (ODYSSEA), led by M. Rebesco (OGS, Italy) West Antarctic Ice Sheet History from Slope Processes – Eastern Ross Sea (WHISPERS) led by L. De Santis (OGS), Glacial Evolution in the north-western Ross Sea, offshore North Victoria Land (GLEVORS), led by C. Sauli (OGS) and F. Colleoni (CMCC, Italy), in the Ross Sea on RV OGS Explora

(Ross Sea). The main objectives of the EUROFLEETS-ANTSSS and of the PNRA cruise were to acquire new geophysical data including seismic, also as site survey for the IODP Exp. 374, sub-bottom profiler and multibeam echosounder data from an underexplored area of the outer shelf and slope along the southeastern slope of the Ross Sea and near the Victoria Land coast. Further objectives were to collect oceanographic data from this region, including Conductivity Temperature Depth (CTD), Acoustic Doppler Current Profiler (ADCP), Lowered-ADCP, Expendable Bathythermograph (XBT) and turbidity data.

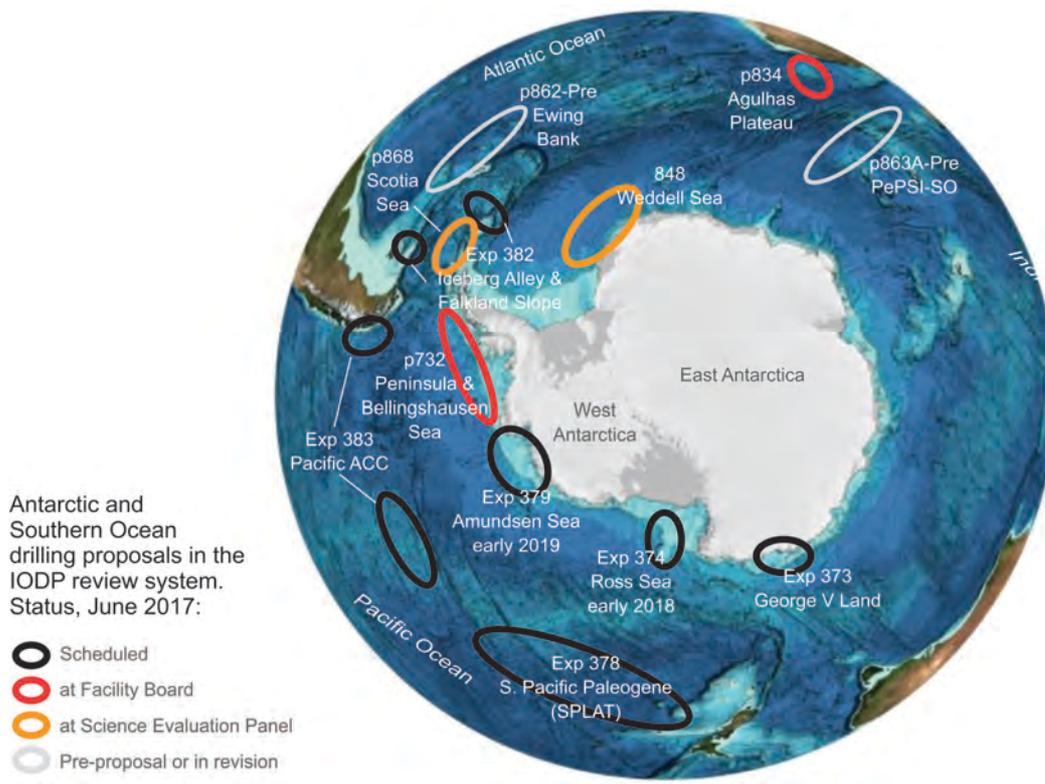
- R/V Investigator survey in the Western Wilkes Land, Sabrina Coast, led by L. Armand and P. O'Brien (Macquarie University, Australia). Multibeam, sub-bottom, seismic data, piston core and CTD data were collected from the continental slope and rise with the aim of understanding the interaction of the Totten Glacier and its ice drainage basin with the Southern Ocean during periods of warming and ice sheet retreat.
- Expedition PS104 on RV Polarstern (MeBo drilling in the Amundsen Sea) led by Karsten Gohl (AWI), employed a multi-barrel seabed MARUM-MeBo70 drill device for the first time to drill unconsolidated sediments and consolidated sedimentary rocks from an Antarctic shelf with core recoveries between 7 and 76%. Three sites were located on the inner shelf of Pine Island Bay from which soft sediments deposited at very high sedimentation rates in isolated small basins were recovered from drill depths of up to 36 m below seafloor. Six sites were located on the middle shelf of the eastern and western embayment. Drilling at five of these sites recovered consolidated sediments and sedimentary rocks from dipping strata spanning ages from Late Cretaceous to Miocene.
- The Antarctic Circumpolar Expedition (ACE) on RV Akademik Treshnikov, led by the Swiss Polar Institute, visited a number of the sub-Antarctic Islands. Two projects were relevant to the PAIS community. First, Liz Thomas led a team that collected several shallow ice cores, from islands including Balleny, Peter, South Georgia and Bouvet. Second, Dominic Hodgson led a team that drilled into coastal lakes and peat bogs. Both these projects are using aerosols to track past changes in the circumpolar westerly winds. These will uncover past mixing and ventilation of the Southern Ocean, which determines the efficiency of the ocean CO<sub>2</sub> sink. The winds can also be linked to changes in the ocean currents that drive warm water onto the Antarctic continental shelf where it can cause basal melting of ice shelves.

A range of teams from a variety of nations continue their work onshore to extract geological records of past Antarctic Ice Sheet behaviour from nunataks and ice-free areas. There are also some new programmes ongoing to drill below the ice to retrieve subglacial bedrock and sediment which will start to yield results in the next few years.

**Major Future Initiatives and Actions, including rough timeline, for at least the next 2 years (<500 words):**

Several other marine cruises are scheduled for the next two years, like the R.V. Hakuho-maru cruise in the Southern Ocean, which is planned in the 2018-2019 season. This cruise is especially targeted for site surveys for IODP proposal 918 (PePSI-SO). The Spanish national programme has a cruise scheduled (January-February 2018) to collect Sparker, TOPAS and sediments from the South Orkney Microcontinent and the Ona Basin.

IODP scheduled drilling activities in the next two years include Exp. 374 (2018) and 379 (2019) as shown by figure 1, and now include Expedition 382, from the proposal led by Michael Weber in Iceberg Alley combined with the drilling on the South Falkland Slope Drift (proposed through an APL). Proposal 732 in the Antarctic Peninsula, led by J. Channell, will possibly be drilled after 2020, as well as the Mission Specific Platform expedition 373, in the George V Land coast, led by Trevor Williams and Carlota Escutia.



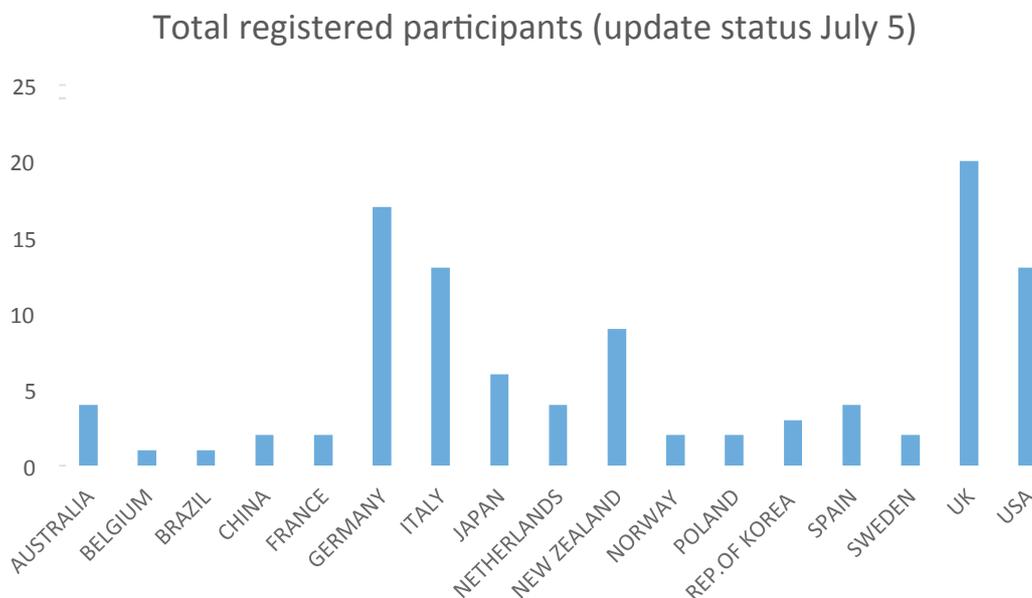
The PAIS Conference will be held in Trieste (Italy) on September 10-15 2017 <http://pais-conference-2017.inogs.it/>

The scope is to present recent results that address still open questions in understanding the sensitivity of the Antarctic Ice Sheet and its contribution to past and future sea level and climate change. The conference will also serve

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as a forum to discuss future research directions for PAIS, and the submission of a proposal to SCAR for a programme to succeed PAIS. We received up to 200 abstracts (15 from invited speakers) from 17 countries (the agenda will be published soon online). We have got requests for 14 workshops and side meetings to be held during the conference and about 130 scientists/students have already registered.

□



We have received 44 applications for travel grants from early-career scientists and students to attend the conference (4 from Australia, 2 from Brazil, 1 from Chile, 21 from Europe, 4 from India, 1 from Rep. S. Korea, 8 from NZ, 5 from USA). We hope to be able to help all of them, at least partially.

PAIS is organizing the session “Arctic and Antarctic past ice sheet dynamics and paleoclimate evolution” for the upcoming conference at POLAR 2018 <http://www.polar2018.org/cr-cryosphere.html>. The session is listed under the Cryosphere category as well as Geology, Geophysics, Solid Earth.

PAIS would like to establish a PAIS Summer school (following the successful Williams and Kulhanek’s workshop held at TAMU in May 2016). We plan to discuss this during the PAIS conference in Trieste.

PAIS will keep contributing to the ECORD Urbino Summer school and to any other school and conference (e.g. the AGU and EGU meetings) related to PAIS, upon request.

### **Please list any new outputs and deliverables (including publications and products that your group feels are part of your achievements):**

Unfortunately, we have not been able to organize an efficient and comprehensive way to collect all articles related to PAIS. We are working on

this. Meanwhile we list here below some recent publications that some of the steering committee members are aware of:

Golledge, N., Levy, R.L., McKay, R., Naish, T. 2017. East Antarctic Ice Sheet vulnerable to Weddell Sea warming. *GEOPHYSICAL RESEARCH LETTERS*, 44, 2343-2351.

McKay, R., Golledge, N.R., Maas, S., Naish, T., Levy, R., Dunbar, G., Kuhn, G., 2016. Antarctic marine ice-sheet retreat in the Ross Sea during the early Holocene. *GEOLOGY*. doi:10.1130/G37315.1.

Crampton, J., Cody, R., Levy, R., Harwood, D., McKay, R., Naish, T., 2016. Southern Ocean phytoplankton turnover in response to stepwise Antarctic cooling over the past 15 million years. *PROCEEDINGS OF THE NATIONAL ACADEMIES OF SCIENCES*.  
[www.pnas.org/cgi/doi/10.1073/pnas.1600318113](http://www.pnas.org/cgi/doi/10.1073/pnas.1600318113)

Levy, R & 25 others (Antarctic ice sheet sensitivity to atmospheric CO<sub>2</sub> variations during the Early-Middle Miocene. In press. *PROCEEDINGS OF THE NATIONAL ACADEMIES OF SCIENCES*.  
[www.pnas.org/cgi/doi/10.1073/pnas.1516030113](http://www.pnas.org/cgi/doi/10.1073/pnas.1516030113)

Golledge, N., Koweleski, D., Naish, T., Levy R., Fogwill, C., Gasson, E., 2016. The multi-millennial Antarctic commitment to future sea-level rise. *NATURE*. 526, 421-425.

McKay, R.M., Barrett, P.J., Levy, R.S., Naish, T.R., Golledge, N. and Pyne, A. 2016. Antarctic Cenozoic climate history from sedimentary records: ANDRILL and beyond. *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY OF LONDON A*, vol 374, issue 2059.

Bart, P. J., Mullally, D., & Golledge, N. R. (2016). The influence of continental shelf bathymetry on Antarctic Ice Sheet response to climate forcing. *Global and Planetary Change*, 142, 87-95.

Gasson, E., DeConto, R. M., Pollard, D., & Levy, R. H. (2016). Dynamic Antarctic ice sheet during the early to mid-Miocene. *Proceedings of the National Academy of Sciences*, 113(13), 3459-3464.

DeConto, R. M., & Pollard, D. (2016). Contribution of Antarctica to past and future sea-level rise. *Nature*, 531(7596), 591-597.

Scherer, R. P., DeConto, R. M., Pollard, D., & Alley, R. B. (2016). Windblown Pliocene diatoms and East antarctic ice sheet retreat. *Nature communications*, 7, 12957.

Gasson, E., DeConto, R. M., & Pollard, D. (2016). Modeling the oxygen isotope composition of the Antarctic ice sheet and its significance to Pliocene sea level. *Geology*, 44(10), 827-830.

Galeotti, S., DeConto, R., Naish, T., Stocchi, P., Florindo, F., Pagani, M., & Sandroni, S. (2016). Antarctic Ice Sheet variability across the Eocene-Oligocene boundary climate transition. *Science*, 352(6281), 76-80.

Lindeque et al., PPP, 2016 (seismostratigraphy of Ross Sea - Amundsen Sea transect)

Lindeque et al., G3, 2016 (sediment thickness grids of RS-AS-BS sector)

Smith J. A., T. J. Andersen, M. Shortt, A. M. Gaffney, M. Truffer, T. P. Stanton, R. Bindshadler, P. Dutrieux, A. Jenkins, C.-D. Hillenbrand, W. Ehrmann, H. F. J. Corr, N. Farley, S. Crowhurst & D. G. Vaughan Sub-ice-shelf sediments record history of twentieth-century retreat of Pine Island Glacier 2017. doi:10.1038/nature 20136

State dependence of climatic instability over the past 720,000 years from Antarctic ice cores and climate modeling Dome Fuji Ice Core Project Members (corresponding authors: Kawamura, K., Motoyama, H. and Abe-Ouchi, A.), *Science Advances*, 3, e1600446 DOI: 10.1126/sciadv.1600446

Aoyama, Y., Doi, K., Ikeda, H., Hayakawa, H., Shibuya, K., Five years' gravity observation with the superconducting gravimeter OSG#058 at Syowa Station, East Antarctica: Gravitational effects of accumulated snow mass, published in *Geophys. J. Int.*, doi: 10.1093/gji/ggw078, 2016.

**If your Expert/Action Group produces data, please report any new data generated and links to inclusions to the Antarctic Master Directory, etc.**

The Antarctic cruises generated geophysical data (multichannel and single channel seismic, sub-bottom and multibeam) and sediment cores that will be stored at the Antarctic Seismic Data Library System and in the National core repositories.

## Budget

### Planned use of funds for 2017 and 2018

Month/Year (MM-YY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
09/2017	PAIS conference	37000	Laura De Santis	ldesantis@inogs.it
12/2017	AGU fall meeting- PAIS steering committee meeting	4000	Tim Naish	Timothy.Naish@vuw.ac.nz
04/18	EGU meeting-- PAIS steering committee meeting	3000	Laura De Santis	ldesantis@inogs.it
06/2018	SCAR-OSC- PAIS steering committee meeting	5000	To be defined	Timothy.Naish@vuw.ac.nz
07/2018	PAIS Summer School	10000	Denise Kulhanek	kulhanek@iodp.tamu.edu
08/2018	ECORD Summer school	3000	Rob DeConto	deconto@geo.umass.edu

#### **Briefly describe what the funds will be used for and what the desired results are:**

The 2017 funds will be used for supporting students, early-career scientists and invited speakers to attend the PAIS conference.

The rest of the 2017 funds will be used by PAIS steering committee members to attend the AGU 2017 fall meeting (as part of travel expenses), during which a PAIS steering committee meeting will be held.

The 2018 funds will be used for supporting PAIS steering committee members, students and early-career scientists to attend EGU, SCAR-OSC and AGU meetings, during which a PAIS steering committee meeting will be held. Some funds will also be allocated for students attending the ECORD Summer school in Urbino.

In addition, we plan to organize a PAIS Summer school at Texas A&M University – IODP repository (College Station, TX, USA), following the successful workshop held in May 2016 by Trevor Williams and Denise Kulahek et al. The school will last 4-5 days during which students will look at the IODP sediment cores collected from Antarctic margins and will attend classes about scientific questions addressed by PAIS, methodologies employed (geophysical surveys and deep and shallow drilling/coring) and scientific gaps to be targeted in future projects. A good plan for funding from PAIS and possibly other sources for students and for the experts attending would be discussed at the PAIS conference.

Funding for workshops upon request.

**Provide an estimate on the % of the budget to be used for support of early career researchers:**

2017: 35% for travel grants to attend the PAIS conference (including PhD students).

2018: 35% for travel grants to attend meetings and schools (including PhD students).

**Provide an estimate on the % of the budget to be used for support of scientists from countries with developing Antarctic programmes (as listed here: <http://www.scar.org/finances/contributions>):**

2017: we provide grants to students and early-career scientists from Chile, Denmark, Ukraine for attending the PAIS conference. The percentage with respect to the 2017 PAIS budget is 5%.

2018: we expect that some of the scientists and students from countries developing Antarctic programmes who will attend the PAIS conference will continue to be involved in PAIS activities. We will stimulate it by supporting them with funds to attend further meetings and schools, and hopefully they will express interest and will develop the ability to have an active role in the future programme beyond PAIS.

We recently recruited Pamela Santibañez from Instituto Antártico Chileno INACH, as APECS representative on the PAIS steering committee. Pamela has a Ph.D. in Ecology and Environmental Sciences. She will get funds from PAIS in 2017 and 2018 and in the future to attend meetings related to her activity for PAIS.

## Linkages

**Please describe any direct support you receive for your activities beyond SCAR** (eg. Funds from another organization for a workshop):

The International Ocean Discovery Program IODP <http://www.iodp.org/> is providing enormous support for the PAIS drilling expeditions in Antarctica, both in terms of offshore and shore-based science and communication-outreach programmes, and for pre-cruise work and meetings.

We received funds for the PAIS 2017 conference from:

- Antarctic Research Centre, Victoria University of Wellington, <http://www.victoria.ac.nz/antarctic/about>
- Istituto Nazionale di Oceanografia e di Geofisica Sperimentale OGS <http://www.ogs.trieste.it/>
- International Centre for Theoretical Physics <https://www.ictp.it/>
- Italian Ministry of Research - Programma Nazionale delle Ricerche in Antartide PNRA <http://www.pnra.it/it>
- Italian Foreign Affairs Ministry funding agency (progetti di grande rilevanza) – <https://www.researchitaly.it/innovitalia/news/italia-e-stati-uniti-firmano-la-joint-declaration-2016-2017> funds from the GSLAISS project <http://gslaiss.inogs.it>
- IODP-ECORD Italy <http://www.iodp-italia.cnr.it/index.php/it/>
- IACS-IUGG <http://www.cryosphericciences.org/support.html>
- IAPSO <http://iapso.iugg.org>

In addition, Rob DeConto has a still-pending proposal to get some support from the NSF for covering travel expenses for US students, early-career scientists and invited speakers.

**Please list any major collaborations your group has with other SCAR groups and with organisations/groups beyond SCAR:**

PAIS is very much linked to some activities carried out by SERCE, AntClim21 and AntEco. Several scientists belonging to these programmes are going to be involved in the PAIS conference, they submitted abstracts and have been invited to provide keynote talks. A workshop will be held seeking to link the marine and the ice core records.

PAIS is also strongly linked to IODP, SOOS and ISMASS searching for evidence and data to understand the COP 21 +2°C tipping point of both Greenland and Antarctica. These programmes aim to investigate processes at different scale with the aim of estimating rates of changes of the cryosphere, global sea level and ocean circulation, possibly leading to irreversible environmental changes.

## Outreach and Capacity Building

**Please describe any outreach, communication and capacity building activities that your group participates in. Also provide information on activities that demonstrate effectiveness as a network. (coordinating activity for your discipline/topic, i.e. mailing list and diversity of scientists involved) (<250 words):**

PAIS has created and is maintaining a new web page <http://www.scar-pais.org/>, in addition to the SCAR web page <http://www.scar.org/srp/pais>, with the help of new APECS representatives on the PAIS steering committee Mathieu Casado (France) and Pamela Santibañez (Chile). On the new web page we are hosting scientific news with small description of PAIS related articles. We also post here video and images of expeditions related to PAIS.

PAIS is supporting the planning of new data-acquisition missions using emerging technologies by making available funds for workshops and meetings (e.g. the subcommittee PRAMSO meeting during the SCAR-OSC 2016 and the IODP-ECORD-USSSP workshop on May 2016).

PAIS is encouraging data sharing and integration of spatially targeted transect data with modelling studies by promoting the free use and exchange of data from the Antarctic Data Library System that stores all existing multichannel seismic data collected by all nations from the Antarctic margins.

PAIS is initiating/expanding cross linkages among Antarctic research communities by engaging IODP and other projects like the FP7-EU/EUROFLEETS and IPICS projects.

As part of SCAR's Capacity Building efforts, such as the Fellowships and Visiting Professor Awards, we are looking for people from all the SCAR groups to form a 'review panel' so if applications in your field are submitted we have people to contact to help assess relevant applications. **Please list one or more people (name and email address) from your Group who would be willing to serve as reviewers for the next few years.**

Laura De Santis [ldesantis@inogs.it](mailto:ldesantis@inogs.it)  
Florence Colleoni [<florence.colleoni@cmcc.it>](mailto:florence.colleoni@cmcc.it)

Perhaps there will be more, after the PAIS conference, where we will promote such activity.

## Membership

### Leadership

Role	First Name	Last Name	Affiliation	Country	Email	Date Started	Date Term is to End
Co-chief officer	Laura	De Santis	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale OGS	Italy	ldesantis@inogs.it	January 1st 2016	December 31st 2020
Co-chief officer	Timothy	Naish	Antarctic Research Centre Victoria University of Wellington	NZ	Timothy.Naish@vuw.ac.nz	January 1st 2016	December 31st 2020

\* Please include any APECS representative / Junior Officers

### Other members

First Name	Last Name	Affiliation	Country	Email
Carlota	<a href="#">Escutia</a> (ex-officio)	IACT-Univ Granada	Spain 	cescutia@ugr.es
Robert	<a href="#">DeConto</a> (ex-officio)	Univ. of Massachusetts	USA 	deconto@geo.umass.edu
Robert	<a href="#">Larter</a>	British Antarctic Survey	UK 	rdla@bas.ac.uk
Karsten	<a href="#">Gohl</a>	Alfred Wegener Institut	Germany 	karsten.gohl@awi.de
Ross D.	<a href="#">Powell</a>	Northern Illinois University	USA 	r.powell@mchsi.com
Michael	<a href="#">Bentley</a>	Durham University	UK 	m.j.bentley@durham.ac.uk
Barbara	<a href="#">Stenni</a>	Cà Foscari University of Venice	Italy 	barbara.stenni@unive.it
Julia	<a href="#">Welner</a>	U. of Houston	USA 	jswellne@Central.UH.EDU
Rob	<a href="#">McKay</a>	Victoria University of Wellington	New Zealand 	Robert.McKay@vuw.ac.nz
Paolo	<a href="#">Stocchi</a>	NIOZ	The Netherlands 	Paolo.Stocchi@nioz.nl
Jongkuk	<a href="#">Hong</a>	KOPRI	South Korea 	jkhong@kopri.re.kr
Yusuke	<a href="#">Sugamuna</a>	NIRP	Japan 	sugamuna.yusuke@nipr.ac.jp
Sun	<a href="#">Bo</a>	Polar Research	China 	sunbo@pric.gov.cn

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		Institute of China		
<b>Marcelo</b>	<a href="#">Reguero</a>	Instituto Antartico Argentina	Argentina 	regui@fcnym.unlp.edu.ar
<b>Marcelo</b>	<a href="#">Leppe</a>	INACH	Chile 	mleppe@inach.cl
<b>Peter</b>	<a href="#">Bijl</a>	U. Utecht	NL 	P.K.Bijl@uu.nl
<b>J. Abel</b>	<a href="#">Flores</a>	U. Salamanca	Spain 	flores@usal.es
<b>Anton</b>	<a href="#">van Putte</a>	Royal Belgium Institute for Natural Sciences	Belgium 	antonarctica@gmail.com
<b>Leanne</b>	<a href="#">Armand</a>	Macquarie University	Australia 	leanne.armand@mq.edu.au
<b>Mathieu</b>	<a href="#">Casado</a>	Post-doc at LSCE and LIPhy	France 	mathieu.casado@lsce.ipsl.fr
<b>Pamela</b>	<a href="#">Santibañez</a>	Instituto Antártico Chileno   INACH	Chile 	psantibanez@inach.cl
<b>Gerhard</b>	<a href="#">Kuhn</a>	AWI, Germany	Germany 	Gerhard.Kuhn@awi.de
<b>Adam</b>	<a href="#">Campbell</a>	Otago University, NZ	New Zealand 	adam.campbell@otago.ac.nz

**Requests to the Secretariat:**

*If there are specific administrative tasks you would like help with such as your webpages, mailing list, online meeting tools, etc., please include them below:*