Numbered documents indicated below are available as PDF files at the SCAR SSG-LS website (http://www.scar.org/researchgroups/lifescience/meetingpapers.html) (summary table of available documents in Appendix A).

SCAR Standing Scientific Groups Joint Session – July 30 morning
Minutes of agenda items 1-11 from the joint SSGs meeting will be a separate report from the SCAR Secretariat. Topics are listed below for reference.

1. Welcome to the SCAR Business Meetings
2. SCAR Presentation
3. SCAR’s Data and Information Management Structure
4. SCAR and Climate Change
5. Southern Ocean Observing System (Doc 8a and 8b)
6. Scientific matters arising from the ATCM (Doc 19)
8. Proposed new Expert Group “Advancing Technological and ENvironmental stewardship for subglacial exploration in Antarctica (ATHENA)” (Doc 9)
9. Cross-SSG Action Group on King George Island
10. Report on the SSG Cross Linkages meeting
11. Cross-SSG Action Group on Prediction of Changes in the Physical and Biological Environments of the Antarctic (Doc 5)

Minutes of SSG-LS

12. Welcome and Apologies
Kathy Conlan, Chief Officer, SCAR Standing Scientific Group - Life Sciences (SSG-LS) formally opened the meeting and welcomed all members, observers and alternate members.

Roll call of countries was made (see Appendix B).

Present: Argentina, Australia, Belgium, Brazil, Canada, Chile, Finland, France, Germany, Italy, Japan, Korea, Malaysia, Netherlands, New Zealand, Portugal, Russia, South Africa, Spain, United Kingdom, United States

Absent: Bulgaria, China, Ecuador, India, Norway, Peru, Poland, Russia, Sweden, Switzerland, Ukraine, Uruguay

13. Adoption of Agenda and timetable (Doc 1)
Agenda and timetable adopted.

Minutes of the SCAR XXX SSG-LS meeting (St. Petersburg 2008) were approved by show of hands.
15. **Comments on Joint SSG meetings and on the Draft SCAR Strategic Plan 2011-2016 (Doc 11)**

The joint session of the SSGs was viewed as a positive change in format and should be continued. Some issues presented in the joint session were further discussed as follows:

**Standing Committee – Antarctic Treaty System (SC-ATS) (Agenda item 6, Doc 19)**

Steven Chown reported that SCAR submitted bioprospecting advice to the ATS but at the last treaty meeting in Uruguay, bioprospecting topic was tabled. Instead of waiting for ATS to resume discussion, SC-ATS proposes that SCAR develop an Antarctic Conservation Strategy for the 21st century to present to the ATS. The previous strategy was developed by SCAR in collaboration with the International Union for Conservation of Nature (IUCN), but is now very dated. SC-ATS suggests that a workshop of experts should be convened to define best practices and develop a management plan for Antarctica (e.g., area selection, identification of alien species, risk assessment, etc.). Invited participants do not necessarily have to be Antarctic researchers, but should include experts in conservation management. CCAMLR is currently driving most conservation policies.

SC-ATS has received a donation of $20,000, and additional funds from South Africa and New Zealand. No funding request was made to the SSG-LS, but SC-ACTS will make a request to SCAR delegates for funding.

SC-ATS also indicated the need for an additional volunteer to assist with conservation issues. Rather than establishing a permanent subgroup, a flexible structure to address needs in specific areas with appropriate experts would be preferable.

**Comments on Strategic Plan (v 5.1) (Doc 11)**

There was general agreement on the draft of the Strategic Plan. Suggestions:

a. Strategic Plan should include the term “extreme”, as well as “cold” to be inclusive of all Antarctic organisms.

b. Strategic plan should show that SCAR needs to regularly make reports, e.g., climate change annually, and other topics on 2- or 4-year reporting schedule.

c. There was some concern that the Plan may indicate more control than SCAR has since SCAR does not fund research. SCAR is a small coordinating organization run by volunteers, but the Strategic Plan seems to present SCAR as a larger organization.

Additional suggestions/comments on the Strategic Plan can be sent directly to Chuck Kennicutt.

**SSG-LS Input for Updates of Climate Reports to ATS (agenda item 4)**

Reports on climate and biology to the ATS are needed every year, but has been very difficult to obtain responses from SSG-LS representatives in order to make these annual reports. The ATS has been informed in the past that it would cost money for SCAR to provide annual update reports since SCAR members are volunteers. Suggestions to improve reporting included using action and expert groups to provide highlights, increasing size of groups, extending list of people to approach, hiring a postdoc to review journals and write a summary article, and requesting that SCAR should be compensated for service to the Treaty. The SSG-LS preferred the suggestion for compensation.
Cross-SSG Action Group on King George Island

It was noted that the report from the King George Island Cross-SSG Action Group that was presented at the joint SSG meeting was very negative and further clarification of the report was needed. Improved coordination of logistics and science is needed between stations in this region. Sergio Marenssi was asked to meet with the SSG-LS. He explained that the report was based on the very little feedback that was received from King George stations (scientists and national Antarctic programs), even though a COMNAP meeting in Punta Arenas, Chile included a workshop on King George Island. There was good attendance at the workshop and everyone showed interest in a King George initiative to compile information about resources available across stations to help coordinate regional activities. Reports required for the ATS were not submitted, so those documents are not available for inclusion in the Cross-SSG Action Group report.

If activities in the King George area are coordinated, it could improve science and reduce environmental impact. Meetings have been held to discuss activities in the region (e.g., the proposal for an ASMA for Admiralty Bay provided a report for CAML) and these meetings have collected some information that can be used by the Action Group. In addition, long term (30-year) data sets from King George are being published and the area will be a monitoring site for SOOS, these activities will further contribute to efforts to coordinate science and operations.

Suggestions to move forward on this issue included setting up an umbrella program to include other areas which have multiple stations (e.g., Ross Sea), have a cross-SSG workshop, restructure the existing group membership, and set up a web-based platform to allow access to information on King George projects. It was agreed that the SSG-LS would put forward a recommendation to the Delegates about the King George Island region (see item 31).

Code of Conduct for Subglacial Lakes (http://www.scar.org/researchgroups/)
This code of conduct was endorsed.

Southern Ocean Observing System (SOOS) (Agenda item 5, Doc 8a and 8b)
Progress on SOOS was noted.

SSG Cross-linkages Meeting Report (agenda item 10)
Report was endorsed.

Cross-SSG Action Group on Prediction of Changes in the Physical and Biological Environments of the Antarctic (agenda item 11, Doc 5)
Report was endorsed.

Proposed new Expert Group “Advancing TecHnological and ENvironmental stewardship for subglacial exploration in Antarctica (ATHENA)” (agenda item 8, Doc 9)
ATHENA was endorsed after it was verified that each of the SSGs would provide funding of US$2,000/year for 2 years (total allocated from the three SSGs will total US$12,000 over two years).

16. Informal report of the CCAMLR observer (Doc 17)
Mark Hindell reported on the Oct 2009 meeting of CCAMLR – report was endorsed.
17. **Working paper: SCAR Code of Conduct for Use of Animals for Scientific Purposes in Antarctica (Doc 2, has been revised)**

   David Walton presented the code of conduct prepared by the drafting committee. Background - first code of conduct on animal research was provided by SCAR in 1990 and adopted by the Treaty in 1994. Now, 20 years later, need to update the code for the 21st century. The code of conduct is not a legal document, it only provides guidelines. There was discussion about wording of the document (e.g., Does it support or only complement national laws and policies?, What is meant by "experimentation"?, etc.). Document was edited and the revised version adopted.

18. **Recommendations from 2008 (Doc 15)**

   The Delegates accepted all recommendations submitted to SCAR in 2008 in St. Petersburg. When a Code of Conduct is approved by the Delegates then this assumes the SCAR countries will follow these guidelines (though of course there is no legal requirement to do so).

   There was a question about the 2008 proposed Code of Conduct for Terrestrial Fieldwork – it was learned that the Code of Conduct was put forth as an information paper to the Treaty in 2009 (http://www.scar.org/treaty/atcmxxxii/).

19. **10th SCAR Biology Symposium (Doc 20)**

   Mitsuo Fukuchi reported on the 10th symposium in Japan. Report was adopted. The CO noted the excellent organization done by Mitsuo and his Local Organizing Committee and the novel innovations added to the Symposium, such as awards to each of the sessions' early career presenters and the strong outreach component. In appreciation, the SSG-LS gave Mitsuo a warm round of applause.

20. **Future meetings of relevance to the SSG-LS**

   See SCAR website (http://www.scar.org/).

21. **Highlights of National Research Programmes**

   (http://www.scar.org/about/nationalreports/)

   The Australian Antarctic Program has released the science plan for next 10 years and this is available at their website.

   The Brazilian government had a new incentive for research and two multi-institutional projects have been funded for Antarctica (5-year programs) with international collaboration (cryosphere and environmental divisions).

22. **Matters Arising from the Expert Group on Human Biology and Medicine (Doc 7)**

   Marc Shepanek reported (for Iain Grant) and report was adopted. An update will provided following meetings during the Open Science Conference.

23. **Matters Arising from the Expert Group on Birds and Marine Mammals (Doc 6)**

   Mark Hindell reported on progress of the EG-B&M. There were questions asked about a request from the ATS for information on populations, e.g., Macaroni penguins; and CCAMLR requests for data on populations of animals and distributions at sea. Mark indicated that experts on macaroni penguins had been contacted and the populations are quite secure, so a management plan is not required. While the previous Bird and Seals Expert Groups did cover animal distributions, it is no longer a tasking of the new EG-B&M, and CCAMLR is satisfied with the formation and responsibilities of the new
EG-B&MM. NAPs will be the best resource for distribution data, in addition the EG-B&MM can canvas their group list for available data.

24. **Matters Arising from the Expert Group Continuous Plankton Recorder (Doc 22)**
Mitsuo Fukuchi reported (for Graham Hosie) on progress of the EG-CPR. Report was adopted.

25. **Progress reports of the Scientific Programme Planning Groups**
   a. **Evolution and Biodiversity in the Antarctic (EBA) (Doc 3)**
Pete Convey reported on progress of EBA for 2008-2010. A new WP2 leader is needed to replace Dan Costa. Also, Katrin Linse has been added to the leadership of WP1. Science results are not included in the EBA report, but will be provided later. Report was adopted.

   b. **The Census of Antarctic Marine Life (CAML)**
Victoria Wadley reported (for Michael Stoddart) on the Census of Antarctic Marine Life. CAML has produced a video about achievements that will be shown in early Oct at the finale of CAML in London. Major products include largest survey of organisms (18 major voyages and ~18 minor voyages); 15,000 bar coded DNA sequences; 1.1 million distribution records; hundreds of new species; >200 publications; and maintenance of an online encyclopaedia of life with illustrated keys. Important findings and activities of CAML:
   - Collected data have shown that species richness is high in the Antarctic, contradicting earlier beliefs of low diversity in polar regions.
   - Although some species appear to be bipolar, genetic analyses have demonstrated that many are actually cosmopolitan.
   - There is no evidence of introduced marine species into Antarctica.
   - There is a single benthic region under the Antarctic Circumpolar Current.
   - Community changes are occurring below ice shelves, which are not just explained by polar emergence.
   - The colonization pathway of octopus from Antarctica across the deep sea has been documented.
   - CAML assisted CCAMLR in identifying the first Vulnerable Marine Ecosystem.
   - CAML synthesis results published in a special volume of Deep-Sea Research Report was adopted.

   c. **SCAR-Marine Biodiversity Information Network (SCAR-MarBIN)**
Bruno Danis presented the SCAR-MarBIN report. SCAR-MarBIN philosophy is to build network with free and open access to support Antarctic science. Since 2005 the web portal has had 800,000 visitors, 5,800,00 hits and 39 million records have been downloaded. The first Registry of Antarctic Marine Species (RAMS) has 16,000 taxa. Geographic data are interfaced with OBIS, GBIF, etc. Projects can make custom field guides, georeference genetic data, access biogeographic atlas of the Southern Ocean, etc. Antarctic Biodiversity Information Facility (ANTABIF) functional since mid-June 2010 ([www.biodiversity.aq](http://www.biodiversity.aq)). Associations have been established with other biodiversity databases; e.g., Global Biodiversity Information Facility (GBIF), Polar Information Commons (PIC), Intergovernmental Science – Policy Platform on Biodiversity and Ecosystem Processes (IPBES). Report was adopted.
26. **Report on plans for the next Life Sciences Scientific Research Program (SRP)**

Two proposals for new SSG-LS scientific research programs were presented. Both programs are intended as sequels to EBA, which will end in 2013:

*State of the Antarctic Ecosystem (AntEco) (Doc 13)*
Dominic Hodgson presented the proposal for AntEco.

*Antarctic Ecosystems: Adaptations, Thresholds and Resilience (AntETR) (Doc 14)*
Julian Gutt presented the proposal for AntETR.

Discussion of these two SRP proposals included concerns about overlap between science objectives in the two proposals (i.e., could they really stand alone); whether the targeted issues were truly unique to Antarctica; are the questions really new and different, do the two programs complement each other in terms of patterns and processes, or was it more a contrast of short-term and long-term (evolutionary) changes in biology; how will scientists be able to choose between the two programs, etc.

It was decided to revise the presentations before they go to the Delegates. A subcommittee made revisions to both proposals, which were accepted separately by the SSG-LS without review.

27. **Cross-SSG Action Group on Cold Seeps and Hydrothermal Vents**

Phil O’Brien reported on progress of this group that was formed in 2008. This action group attended an Aug 2009 CCAMLR workshop on Vulnerable Marine Ecosystems (VMEs) in La Jolla, CA (workshop and SCAR Biology Symposium were too close for people to attend both). Products from the meeting:

- a paper on seeps and vent detection (CCAMLR VME 09-09)
- classification of physical indicators of seeps and vents (classes 1-4)
- review of seismic and echo sound data

Need to determine relationship of seeps and vents to fishing activity. Have developed a field guide of major organisms associated with seeps and vents, SCAR-MarBIN also preparing a list of seep organisms. Locations of confirmed VMEs are needed, but there is some secrecy on locations because of competition between research groups.

Report was adopted.

28. **Southern Ocean acidification (Doc 10)**

Richard Bellerby gave a presentation on issues and threats of Southern Ocean acidification with a proposal for a *Cross-SSG Action Group on Southern Ocean Acidification (Life Sciences and Physical Sciences)*.

It was noted that this cross-SSG action group should consider a partnership with Scientific Committee on Oceanic Research (SCOR), and that the scope of the work fits with the two proposed SRPs. There was also discussion of the current controversies about effects of acidification on marine organisms.

Report and proposal were endorsed. Action group terms of reference and membership will be developed.

29. **11th SCAR Biology Symposium (Doc 21)**
Don Cowan and Leopoldo García Sancho presented proposals for holding the 11th SCAR Biology Symposium in South Africa and Spain, respectively. Voting was by closed ballot and Barcelona, Spain was selected as the site of the next Biology Symposium in July 2013.

30. Financial Requests – Integration
Kathy Conlan, CO, presented a summary of finances for the SSG-LS for 2011-12. The SSG-LS will receive US$17K/year plus $5K for each of the Program Planning Groups for each SRP (if approved) ($10K) = $27K. “Contingency” category in budget will be redefined to reflect that money to be used for early career scientists to go to meetings. Total of $32K requested for 2010-2012 and amounts will be adjusted based on final budget allocation.

31. New Recommendations to Delegates
The following recommendations will be forwarded to the Delegates:

a. King George Island Action Group

RECOGNIZING the relevance of the King George Island Action Group and its aims
NOTING the substantial scientific and operational activities at King George Island, the need to gather information to develop cooperative initiatives and avoid logistical and scientific duplication and overlap (e.g., temporal, spatial, thematic), and optimize efforts and costs by sharing logistics and scientific infrastructure wherever possible,

THE LSSSG RECOMMENDS that a workshop is held to establish the scope of the current and future research, and develop a strategic plan for handling future collaborative efforts at King George Island. This SCAR-sponsored workshop would gather scientific and operational representatives from each country currently involved in research at King George Island.

b. Code of Conduct for Research Involving Animals

RECOGNIZING that humankind has a moral obligation to respect all animals and to have due consideration for their capacity for suffering and memory:
ACCEPTING nevertheless that, in its quest for knowledge, humankind has a need to use animals where there is a reasonable expectation that the result will provide a significant advance in knowledge or be of overall benefit for animals;
RESOLVED to limit the use of animals for experimental and other scientific purposes, with the aim of replacing such use wherever practical, in particular by seeking alternative measures and encouraging the use of these alternative measures;
DESIRING to adopt common provisions in order to protect animals used in those procedures which may possibly cause pain, suffering, distress or lasting harm and to ensure that where unavoidable they shall be kept to a minimum;
RECOGNIZING the existence of national animal welfare legislation, that this Code is meant to support and supplement such legal frameworks, and that nothing in this Code may supersede the provisions of such national legislation,

SCAR has adopted a Code of Conduct based on internationally agreed guiding principles for research involving animals, including requirements for publication of such research in many international scientific journals. National codes vary in the range of species they encompass but some include all Vertebrata as well as some...
Invertebrata. The Code of Conduct should be read in concert with Annex II of the Protocol on Environmental Protection to the Antarctic Treaty which provides guidance on the killing, capturing and handling (“taking”) of native fauna and aims to provide guidance on the interpretation of Article 3 para 6 of this Annex.

c. SCAR Marine Biodiversity Information Network (SCAR-MarBIN)

CONCERNING the future of the SCAR Marine Biodiversity Information Network (SCAR-MarBIN) as a major component of the Antarctic Biodiversity Information Facility (ANTABIF)

RECOGNIZING the achievements, the crucial usefulness and potentials of the SCAR-MarBIN network in terms of compilation, integration, accessibility and dissemination of Antarctic marine biodiversity data for research, management, conservation and monitoring purposes,

STRESSING the need for SCAR to continue to efficiently contribute data and expertise to GBIF (Global Biodiversity Information Facility) as an Associate Participant,

CONSIDERING the critical role of SCAR-MarBIN as the main biodiversity data provider to SOOS (Southern Ocean Observation System),

STRESSING the interest for SCAR to be actively associated to emerging initiatives such as the world-scale IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services), or the PIC (Polar Information Commons),

SCAR RECOMMENDS to National Committees that they urge their national funding agencies to consider contributing to SCAR-MarBIN funding for the period 2011-2015.

32. Election of Office Bearers (Doc 4)

There were no nominations for a new Deputy Chief Officer of the SSG-LS. The position has been left unfilled.

33. Next SSG-LS Meeting (Doc 18)

The XXXIIth SCAR meeting will be in Portland, Oregon, 13-25 July 2012. There was an informal discussion about the format and focus of the business meetings and the Open Science Conference, summary of comments/suggestions:

• Free Internet access is required throughout the business meeting in the meeting rooms.
• Keynotes and regular talks must be standardized to allow going from room to room, to attend different papers during the same session.
• Need sufficient notice for meetings, registration, abstract submission - some participants cannot attend because of short notice and insufficient time to apply for travel funds and plan other activities.
• Theme of 2012 OSC should accommodate EBA since it will be the wind up for this program and special sessions will be needed. SSG-LS needs to suggest sessions for meeting that reflect all programs. Next OSC should pay more attention to SRPs and other SCAR programs.
• Frequency of OSC at every 2 years is fine.
• Need to consider carbon footprint – 24 tons carbon/person/trip is very large, so we should be reducing number of all meetings because of CO₂ emissions. The SCAR Executive Committee should take this issue into consideration. One possible way to reduce carbon emissions is to have every second OSC be key notes only, directed at the Delegates. This would work particularly well in years when the SCAR Biology Symposium is scheduled between OSC years.
34. Approval of Report
   Review and acceptance of minutes will be done by e-mail.

Added agenda item – Association of Polar Early Career Scientists (APECS)
José Xavier made a presentation about APECS. APECS is a bipolar organization (Arctic and Antarctic) with 2400 members from 45 countries. A major goal is to provide networking for early career scientists by providing venues for interaction between members and through a mentorship program. It has memorandums of understanding with SCAR, IASC, etc. and APECS members serve on international steering committees. A key point was that early career scientists could help SCAR achieve its goals. They are involved in IPY, and conduct education and outreach.
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<td>Mitsuo Fukuchi</td>
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## Appendix B. Attendees of the 2010 SSG-LS Business Meeting

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<th>Country</th>
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<tr>
<td>Argentina</td>
<td>Viviana Alder*</td>
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<td>Brazil</td>
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<td>Canada</td>
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<td>Wilhelm Hagen*</td>
<td><a href="mailto:whagen@uni-bremen.de">whagen@uni-bremen.de</a></td>
</tr>
<tr>
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<td>Hans-Ulrich Peter</td>
<td><a href="mailto:Hans-Ulrich.Peter@uni-jena.de">Hans-Ulrich.Peter@uni-jena.de</a></td>
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<tr>
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<td>Julian Gutt</td>
<td><a href="mailto:julian.gutt@awi.de">julian.gutt@awi.de</a></td>
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<td>Joachim Plötz</td>
<td><a href="mailto:joachim.ploetz@awi.de">joachim.ploetz@awi.de</a></td>
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<tr>
<td>Italy</td>
<td>Guido Di Prisco*</td>
<td><a href="mailto:g.diprisco@ibp.cnr.it">g.diprisco@ibp.cnr.it</a></td>
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<td>Japan</td>
<td>Mitsuo Fukuchi*</td>
<td><a href="mailto:fukuchi@nipr.ac.jp">fukuchi@nipr.ac.jp</a></td>
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<tr>
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<td>Satoshi Imura</td>
<td><a href="mailto:imura@nipr.ac.jp">imura@nipr.ac.jp</a></td>
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<td>Korea</td>
<td>Sang Hoon Lee*</td>
<td><a href="mailto:shlee@kopri.re.kr">shlee@kopri.re.kr</a></td>
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<td>Siti Aishah Alias*</td>
<td><a href="mailto:siti.alias@gmail.com">siti.alias@gmail.com</a></td>
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<tr>
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<td>Irene Tan Kit Ping</td>
<td><a href="mailto:itan@um.edu.my">itan@um.edu.my</a></td>
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<tr>
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<td><a href="mailto:michaelw@ums.edu.my">michaelw@ums.edu.my</a></td>
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<tr>
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<td>Abiramy Krishnan</td>
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<td>Ad Huiskes*</td>
<td><a href="mailto:A.Huiskes@nioo.knaw.nl">A.Huiskes@nioo.knaw.nl</a></td>
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<td>Roberta Farrell*</td>
<td><a href="mailto:rfarrell@waikato.ac.nz">rfarrell@waikato.ac.nz</a></td>
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<tr>
<td>Portugal</td>
<td>José Xavier*</td>
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<tr>
<td>South Africa</td>
<td>Steven Chown*</td>
<td><a href="mailto:slchown@sun.ac.za">slchown@sun.ac.za</a></td>
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<tr>
<td></td>
<td>Bettine J. van Vuuren</td>
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<tr>
<td>Spain</td>
<td>Leopoldo G. Sancho*</td>
<td><a href="mailto:sancholg@farm.ucm.es">sancholg@farm.ucm.es</a></td>
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</tr>
</tbody>
</table>
Country | Representative (*lead) | Email
--- | --- | ---
United Kingdom | Pete Convey* | pcon@bas.ac.uk
| Dominic Hodgson | daho@bas.ac.uk
| David Walton | dwhw@bas.ac.uk
United States | Alison Murray* | Alison.Murray@dri.edu
| Diana Wall | diana@nrel.colostate.edu
| Marc Shepanek | marc.shepanek@nasa.gov
| Deneb Karentz | karentzd@usfca.edu
Uruguay | no representative |

non-voting representative from the Association of Polar Early Career Scientists: José Xavier

Observers:

Country | Name
--- | ---
Argentina | Sergio Mareussi
Australia | John Gunn
Australia | Mark Hindell
Brazil | Monica Muelbert
Germany | Horst Bornumann
Malaysia | Michael Wong
South Africa | Jennifer Lee
United States | Chuck Kennicutt
| Phillip Taylor
| Roberta Marinelli
| Lee Standish (also APECS)

SSG-LS Funding requests, 2011-12

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<th>Group</th>
<th>Purpose</th>
<th>2011</th>
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<td>EG-CPR</td>
<td>Maintain Identification standards, exchanges and collaborations</td>
<td>4000</td>
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<td>EG-HB&amp;M</td>
<td>Website, meeting</td>
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<tr>
<td>SSG-LS</td>
<td>Student travel awards for OSC</td>
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<td><strong>Total</strong></td>
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Note: $17K allocation for SSG-LS plus 5K for each SRP – PPG pending Delegate approval. EBA has separate budget.