



**Annex 1. Evaluation criteria for SCAR Scientific Research Programmes**

*Reviewers should complete this page, expanding the text where necessary, but to no more than 2-3 pages of A-4 including this page.*

**SCIENCE QUALITY. Recognising that the national science on which the research was based has already been peer-reviewed, do the scientific highlights and published papers indicate that the internationally collaborative research stimulated by the programme has produced science that is excellent, or good, or fair? (please provide a brief justification for your choice).**

The AAA/SRP was proposed and approved with the focus area on the Antarctic (and in some sense Arctic) sites testing for their potential use for astronomical and astrophysical observations from polar regions. Within that focus, the AAA/SRP has achieved EXCELLENT results – there are a number of scientific papers published on the SRP topics, and the Site Testing Database is compiled and made accessible to everyone interested.

However, the AAA/SRP is still yet to achieve/play more active role as a facilitator (maybe even a coordinator) of all "astro" observations across Antarctica (and maybe even in the Arctic). This role is not "to promote some observations", but to provide a clear vision for the polar astrophysical community what kind of observations would be more effective where. This means the AAA/SRP can provide an informative advice on what kind of observations (visual, terahertz, IR, CMB, galactic, solar and extrasolar planets, etc.) could be proposed for which tested sites... where specific observations would be most productive and more cost effective.

There is some tendency is recognized that some Antarctic Programs are eager to repeat success of other programs proposing to deploy quite expensive telescopes without clear understanding of the existing or future supporting infrastructure.

**SCIENCE IMPORTANCE/RELEVANCE/TIMELINESS. Has the work advanced scientific understanding and been in accordance with the SCAR Strategic Plan (<http://www.scar.org/strategicplan2011/>)? (Yes or no; please provide a brief explanation for your choice).** The answer is "YES" (SCAR Strategic Plan 2011-2016, Leadership in Antarctic Science, pages 12-13).

The East Antarctic Plateau is a unique place for astronomical observations because it is elevated quite high (over 4 km) from the sea level, its atmosphere is the driest on Earth with the very low water vapor content, and it is very cold during long austral winters with quite low air turbulence above.

Thus, the science this SRP is pursuing is very important – for example, see in the AAA/SRP Report (Appendix 2) a list of outstanding results obtained by the radio and neutrino telescopes at South Pole.

**DATA ARCHIVAL AND ACCESS. Is the programme adequately addressing the issues of data archiving and data access, and are its data accessible to the wider community? (Yes or no; please provide a brief explanation of your choice).** YES

The site-testing database has been created... it is an active, live database accessible to everyone interested: <http://www.astronomy.scar.org/WorkingGroupA/scar-db.php>

**OUTREACH - PUBLIC/POLICY PROFILE. Is this programme enhancing the public profile of SCAR? (Yes or no; please provide a brief explanation of your choice).** YES

The AAA/SRP's outreach activities have been excellent... this Programme has significantly enhanced the SCAR's public profile via promoting the cutting-edge science achieved by the astronomy facilities deployed in the Antarctic, as well as the SRP attracts public attention to the SCAR overall activities over the continent.

**EDUCATION. Is the work contributing to education about Antarctic science? (Yes or no; please provide a brief explanation of your choice).** NO

The Programme's education activities have been modest so far... while the SRP members published a number of articles in various "mass media" journals and newspapers around the world, to my knowledge there were no yet attempts undertaken to bring the Antarctic Astronomy and Astrophysics into classrooms – to the undergraduate colleges, high schools, museums.

**BUILDING CAPACITY ACROSS ALL SCAR MEMBER COUNTRIES. Has the programme contributed to building the capacity of countries with less well developed Antarctic programmes and/or early career scientists a lot, modestly, little, or not at all? (please provide a brief explanation of your choice).** YES

The AAA/SRP has established a very good website (<http://www.astronomy.scar.org>) where major international astronomical meetings and AAA/SRP workshops are listed and explained. The Programme has been publicised also at the major international astronomical meetings - such as the International Astronomical Union General Assemblies - through the specific sessions, posters, and talks. The SRP members promote Antarctic Astronomy within their own national communities, and invite speakers to (and from) the countries that do not have yet a significant Antarctic astronomy program such as Japan or South Korea.

**VALUE FOR MONEY. Considering that SCAR is only able to invest some \$20-25,000 per year in each SRP, do the results indicate excellent/good/fair/poor value for money? (please provide a brief justification for your choice).**

The number of scientific sessions and special workshops organized by the AAA/SRP from 2011 through 2013 is quite impressive. Therefore, the SCAR's investment in this Programme was very valuable... though the Programme could be doing a better job addressing not only the ongoing programs and new site testing, but establishing a robust scientific approach that would be recommending the Programme's participants to coordinate their efforts while proposing or bringing new astronomical instruments to various national Antarctic stations.

The Antarctic continent is remote and harsh... and it would be quite expensive to repeat efforts accomplished already by some Antarctic programs in new locations. It is always better to consider what new could be achieved at a new location with a new telescope and not repeat already achieved results (of course, unless a confirmation needed for a result obtained at some other location).

**TERMS OF REFERENCE. To what extent do you feel the SRP has met the Terms of Reference given in Annex 2.**

I enumerated the Terms of Reference below to address and rate them specifically at the scale from Excellent through Very Good, Good, and to Fair.

**Term 1 – Very Good:** The Programme has not yet met this Term fully while working on the adjustment and optimization of the national Antarctic science and implementation plans in the light of the ongoing events, overall progress, and potential future activities.

**Term 2 – Excellent:** The Programme met this Term in full.

**Term 3 – Very Good:** The programme met this Term, but only with its primary goal to accomplish the site-testing effort across the continent and identify the best astronomical sites.

**Term 4 – Very Good:** The Programme met this Term in full, but not sure about the SCAR/EC responsiveness.

**Term 5 – Excellent:** The Programme met this Term in full.

**Term 6 – Excellent:** The Programme met this Term in full.

**Term 7 – Excellent:** The Programme met this Term in full.

## **Annex 2. Scientific Research Programme**

### *Terms of Reference*

The Terms of Reference for a SRP will be:

1. to oversee and guide the development and execution of the programme's implementation activities, adjusting and optimizing the science and implementation plans in the light of events and progress.
2. to actively seek support of the programme's implementation through national and international mechanisms
3. to ensure the delivery of agreed/approved scientific outcomes, including synthesis activities and public/policy outreach
4. to respond to requests for expert advice/support from the SCAR Executive Committee in a timely and effective manner
5. to ensure appropriate exchange and archival of data generated as a result of the programme
6. to establish scientific liaison and logistic cooperation with other Antarctic activities as appropriate
7. to advise the SCAR Executive Committee and Delegates on progress and on the use of funds

### *Criteria for Membership of the SRP Steering Committee*

The membership of a SRP will be:

- explicit
- appointed by the Executive Committee in consultation with the Meeting of Delegates
- based primarily on internationally recognized scientific expertise fulfilling required mix of skills and experience with geographical and gender mix taken fully into consideration
- for a 4-year term with the possibility of extension depending on contribution and performance
- governed by a phased rotation scheme