

reduced data and other data products. ESO should explore the capabilities of its archive to maintain the legacy data produced by LPs. When submitting, the proposer should indicate what data products they expect to deliver within which time frame. It was also suggested that a stronger PR effort should accompany successful Large Programmes.

Currently, LPs have to report to the OPC about their progress at each call for proposals. Effectively, a LP can be judged no sooner than about one year after approval. A final report listing the achievements, including publication list, should be implemented.

Overall the LPs are considered a success and should be continued. They provide European astronomers with a chance to achieve important results in a competitive and timely fashion.

### PUBLIC SURVEYS

On the last day the Workshop focused on Public Surveys. The subject was introduced by a series of presentations on survey-related Large Programmes, past and current public surveys, EIS survey infrastructure, other major surveys worldwide, plans for the UKIDSS surveys, VST/OmegaCam and VISTA.

Surveys provide large, homogeneous data sets covering a variety of combinations in the parameter space of multiband, depth and area. Often surveys span longer times and a broader scope than LPs. Out of their database, large uniformly treated products can be generated, which can be used for a

variety of scientific purposes.

At ESO, surveys have been handled as LPs in the past years. Some of them have been conceived as Public Surveys, such as the various EIS surveys (e.g. Pre-FLAMES, Deep Public Survey, and the GALEX and XMM follow-up surveys), FIRES and GOODS. Others have been handled as proprietary (or private) surveys, such as the U-band VIRMOS survey and the SWIRE optical follow-up. Many of these surveys are also connected to legacy-type programmes at satellites and other observatories.

Over the past several years the EIS team has developed a Survey System that is now virtually complete and will offer the possibility of processing imaging survey data from a variety of instruments, both optical and infrared.

With VST and VISTA ESO is about to start operation of two survey telescopes in the coming years. Proper planning for the optimal use of these facilities is an urgent need. The UKIDSS surveys will take 1000 nights at the UKIRT telescope over the next seven years and all its products will be public to the ESO community. VISTA will devote 75% of its time to surveys. Both UKIDSS and VISTA will generate a strong demand for complementary data in the optical.

At the end of the workshop a two-hour discussion session focused on the future implementation of surveys at ESO. By and large general agreement emerged on the following issues:

- Surveys will be an important and

necessary tool to optimize the science returns of the VLT

- Besides public surveys, there may well be Guaranteed Time Observations and private surveys

- Scientific and scheduling coordination of surveys is essential for a rational and effective use of survey telescopes

- To ensure coordination, surveys should be evaluated as a distinct category with respect to LPs. ESO should establish a proper procedure to ensure such coordination.

- One of the lessons learned from the EIS experience is that stronger involvement of the community in survey production is necessary to ensure the scientific quality of the products and their timely delivery.

- For optimal results to be achieved, effective forms of cooperation between ESO and its community will have to be established.

- For each survey a dedicated team should take the responsibility for survey design and products, while ESO will support the team effort by making available the EIS Survey System through the Visitor Programme.

- Surveys and Virtual Observatory activities should be properly interfaced for mutual benefit.

Surveys will be an important contribution to the science produced with ESO facilities in the forthcoming era of dedicated survey telescopes. New procedures should be followed to ensure timely delivery of high quality survey products for the entire ESO community.

## A REPORT ON A WORKSHOP ON

# FUTURE LARGE-SCALE PROJECTS AND PROGRAMMES IN ASTRONOMY AND ASTROPHYSICS

Organisation for Economic Co-operation and Development (OECD) - Global Science Forum

IAN CORBETT (ESO)

This workshop was proposed by Germany, which invited ESO to act as host, and took place on December 1-3, at the Deutsches Museum (December 1) and at the Ludwig-Maximilians-Universität (December 2, 3). It was attended by government-appointed delegates from fifteen Global Science Forum Member countries and Observers, three non-OECD countries, representatives of ESO, the President of the International Astronomical Union, invited speakers, and the OECD secretariat, and was chaired by Ian Corbett of ESO.

The Munich workshop is the first of two meetings that are being convened under the aegis of the Global Science Forum. The goal of these workshops is to produce a concise policy-level report, intended primarily for

agency officials, programme managers and facility managers, containing consensus findings and conclusions. It is intended to give them a long-term overview of the field and of the issues that governments and community may wish to consider. It will not be prescriptive regarding any particular project or programme. The two principal components of the report will be:

- 1) A strategic perspective on potential future large facilities or projects during the next 10–15 years, based on important scientific goals, and connections to other fields.
- 2) An enumeration and analysis of trends, issues, and concerns relevant for long-term planning and priority-setting by government officials and scientific organisations, with an emphasis on prospects for international co-ordination and co-operation.

The report may well recommend follow-on activities. A report on the first meeting was presented to the Global Science Forum in February, which enthusiastically welcomed the progress made.

### SCIENTIFIC PRESENTATIONS

Two public keynote presentations, given by Malcolm Longair and Martin Harwit, took place on the evening of December 1. During the following two days, workshop participants heard eight presentations in two general categories: (1) a broad review of the main scientific challenges in the field of astronomy, focussing on the key unanswered questions and the type of information that is sought by researchers, and (2) a survey of the principal observational and technological advances that are needed, with an emphasis on those areas that offer opportunities for

strengthened international co-operation. The presentation materials are available on the Global Science Forum internet site: [www.oecd.org/sti/gsf](http://www.oecd.org/sti/gsf).

The talks were excellent and, following each presentation and during a longer discussion period at the end of the workshop, participants debated a wide range of issues. A consensus emerged on the broad scientific perspectives and generic issues of relevance to governments. Delegates very much regretted that the major space agencies, in particular ESA and NASA, were unable to present their perspectives, although the Workshop was very clear in stating the com-

plementarities of ground and space and the value of co-operation and consultation between the agencies.

- 1) The general subject areas enumerated below will now be discussed further at the second and final workshop that will be held on April 5 and 6, 2004 in Washington, DC.
- 2) A Global Strategic Vision for Astronomy and Astrophysics.
- 3) Key Areas for Investment (including education and training).
- 4) Generic policy issues for large collaborative projects.
- 5) Management and sharing of astronomical

data.

- 6) Evaluation and protection of sites for present and future large facilities.

Small working groups are now preparing draft material for Washington in each of these areas (ESO people are involved in several of them) so that there can be a more focussed discussion which leads to consensus agreement on the framework and contents of the report. This will be written after Washington and presented to the Global Science Forum at their meeting in late June. It will be a public document, available on the OECD GSF web site and widely distributed to governments and agencies.

## FINLAND TO JOIN ESO

**F**inland will become the eleventh member state of the European Southern Observatory. In a ceremony at the ESO Headquarters in Garching on 9 February 2004, an Agreement to this effect was signed by the Finnish Minister of Education and Science, Ms. Tuula Haatainen and the ESO Director General, Dr. Catherine Cesarsky, in the presence of other high officials from Finland and the ESO member states.

Following subsequent ratification by the Finnish Parliament of the ESO Convention and the associated protocols, it is foreseen that Finland will formally join ESO on July 1, 2004.

The Finnish Minister of Education and Science, Ms. Tuula Haatainen, began her speech with these words: "On behalf of Finland, I am happy and proud that we are now joining the European Southern Observatory, one of the most successful megaprojects of European science. ESO is an excellent example of the potential of European cooperation in science, and along with the ALMA project, more and more of global cooperation as well."

She also mentioned that besides science ESO offers many technological challenges and opportunities. And she added: "In Finland we will try to promote also technological and industrial cooperation with ESO, and we hope that the ESO side will help us to create good working relations. I am confident that Finland's membership in ESO will be beneficial to both sides."

Dr. Catherine Cesarsky, ESO Director General, warmly welcomed the Finnish intention to join ESO. "With the accession of their country to ESO, Finnish astronomers, renowned for their expertise in many front-line areas, will have new, exciting opportuni-



Signing of the Finland-ESO Agreement on February 9, 2004, at ESO Headquarters in Garching. At the table, the ESO Director General, Dr. Catherine Cesarsky (left), and the Finnish Minister of Education and Science, Ms. Tuula Haatainen (right).

ties for working on research programmes at the frontiers of modern astrophysics."

"This is indeed the right time to join ESO", she added. "The four 8.2-m VLT Unit Telescopes with their many first-class instruments are working with unsurpassed efficiency at Paranal, probing the near and distant Universe and providing European astronomers with a goldmine of unique astronomical data. The implementation of the VLT Interferometer is progressing well and last year we entered into the construction phase of the intercontinental millimetre- and submillimetre-band Atacama Large Millimeter Array. And the continued design studies for gigantic optical/infrared telescopes like OWL are progressing fast. Wonderful horizons are indeed opening for the coming generations of European

astronomers!"

She was seconded by the President of the ESO Council, Professor Piet van der Kruit, "This is a most important step in the continuing evolution of ESO. By having Finland become a member of ESO, we welcome a country that has put in place a highly efficient and competitive innovation system with one of the fastest growths of research investment in the EU area. I have no doubt that the Finnish astronomers will not only make the best scientific use of ESO facilities but that they will also greatly contribute through their high quality R&D to technological developments which will benefit the whole ESO community. "

(ESO Press Release 02/04)