EUROPEAN ORGANISATION FOR ASTRONOMICAL RESEARCH IN THE SOUTHERN HEMISPHERE

For Approval

OBSERVING PROGRAMMES COMMITTEE
89th Meeting
21-25 November 2011
Minutes
89th Meeting of the  
ESO Observing Programmes Committee  
held in Garching and Ismaning from 21-25 November 2011

A. OPC meeting - Part 1 (21 November)  
B. Panel Sessions (22/23/24 November)  
C. OPC meeting - Part 2 (24/25 November)

The meeting took place with the following participants:

Chairperson: Dr. Michael Rowan-Robinson (United Kingdom)  
Vice-chairperson: Dr. Jean-Louis Monin (France)  
Members: Dr. Giuseppe Bono (Italy)  
Dr. Sofia Feltzing (Sweden)  
Dr. Annette Ferguson (United Kingdom)  
Dr. Laura Ferrarese (Canada)  
Dr. Guillaume Hebrard (France)  
Dr. Wolfgang Hillebrandt (Germany)  
Dr. Leslie Hunt (Italy)  
Dr. Emmanuel Jehin (Belgium)  
Dr. Jean-Paul Kneib (France)  
Dr. Rolf-Peter Kudritzki (USA)  
Dr. Dante Minniti (Chile)  
Dr. Patrick Petitjean (France)  
Dr. Bianca Poggianti (Italy)  
Dr. Sandra Savaglio (Germany)  
Dr. Paul van der Werf (The Netherlands)

Members-at-Large: Dr. Romano Corradi (ESO/GTC representative)  
Dr. Gwendolin Meeus (ESO/GTC representative)  
Dr. Petr Hadrava (Czech Republic)  
Dr. Daniel Schaerer (Switzerland)  
Dr. Ian Smail (United Kingdom)  
Dr. Massimo Turatto (Italy)

On behalf of ESO: Dr. Magda Arnaboldi  
Dr. Bruno Leibundgut  
Dr. Christophe Dumas  
Dr. Ferdinando Patat  
Dr. Gaitee Hussain

Minutes: Ms. Elisabeth Hoppe
A. OPC meeting – Part 1

Welcome

On behalf of Dr. Rowan-Robinson whose flight to Munich was delayed due to bad weather, the OPC Vice-chair, Dr. Monin opened the 89th OPC meeting addressing a special welcome to the new OPC members, Dr. Savaglio, Dr. Ferrarese, Dr. Bono and Dr. Feltzing. Furthermore Dr. Monin gave an overview of the agenda for the OPC week. He thanked the OPC members for investing a significant amount of work outside their regular duties to the proposal evaluation process which is an essential service for the astronomical community. Then all participants to the meeting introduced themselves in a tour-de-table.

1. Adoption of the Agenda

The agenda of the 89th OPC meeting was adopted without any changes.

2. Approval of the Draft Minutes of the 88th Meeting

The draft minutes of the 88th OPC meeting had been distributed to the P88 and P89 OPC members. They were approved without any changes.

3. Dates of the next meeting

The dates for the next OPC meetings are 21-25 May and 19-23 November, 2012.

4. Introduction by the Director for Science

On behalf of the Director General, Dr. Leibundgut welcomed the OPC members to the meeting for period 89. He emphasized the key role the OPC plays for ESO’s scientific goals and objectives and thanked the OPC members for their considerable work dedicated to the scientific evaluation of the proposals submitted to ESO.

A recent example for the success of ESO’s mission is the award of the Physics Nobel Prize 2011 to two supernova cosmology projects with substantial contributions from ESO observations.

In his presentation (ANNEX 1) Dr. Leibundgut reported about news from the La Silla Paranal observatory and gave an overview of the new instruments to come in the next two years. Furthermore he summarized the outcome of the ALMA Early Science Cycle 0 and outlined the status of the ELT project. Finally he announced a Science Workshop to be held in September 2012 on the occasion of the 50th anniversary of ESO.
5. **Overview of OPC Procedures**

Dr. Patat gave an overview on the OPC procedures and policies to be outlined in more detail in his presentation before the Panel meetings.

Finally Dr. Patat thanked the OPC on behalf of the ESO community for its work.

6. **VISTA Public Surveys Review**

Dr. Arnaboldi, the ESO Survey Team leader, gave a detailed progress report on the six ESO Public Surveys with VISTA including their completion rate, their early science results and their data products ([ANNEX 2](#)). Furthermore she outlined the outcome of the VISTA Public Survey Panel review.

The OPC fully concurred with the recommendations of the Public Survey Panel for any further time allocation to survey projects and in particular with the concern about the lack of Phase 3 products with the Viking team which resulted in the following PSP recommendation: “The PSP strongly recommends that ESO discusses this issue with the PI, identifies the underlying reasons for the delay and requests a credible recovery plan. If necessary ESO should take all necessary measures to address the problem, including reducing the priority of execution of the VIKING survey in favor of completing the other VISTA surveys”.


Dr. Arnaboldi briefly presented the science cases and time frames of the two Public Surveys approved in Period 88. She then outlined the review process of the Survey Management Plans of these projects.

Upon inquiry by the OPC chairman, Dr. Arnaboldi confirmed that the EST felt that the concept of Survey Management Plans and a regular review of their progress are very important tools for a learning process for the teams, as well as for ESO. In addition they are very helpful to make the programmes coherent.

Finally Dr. Arnaboldi presented a request by the PESSTO team for a change of the time allocation (60n/30n in even/odd periods, instead of 45n/45n) to the OPC for recommendation ([ANNEX 3](#)). After discussing this request with the Panels, the OPC expressed its consent to reconsider this change request in Part II of the OPC meeting.

8. **Review of concluded and on-going Large Programmes**

The OPC reviewed the progress reports of the 23 ongoing and concluded Large Programmes and approved the continuation of all of them. The OPC was pleased to see that many projects are making very good progress and also responded positively to the request by the OPC for a more profound and detailed presentation of their scientific results. However, the OPC still identified a few progress reports which will need a significant improvement in order to approve the continuation of the respective Large Programmes in the future.

The OPC also noted that the wording of the heading in item 5 of the progress report form might be misleading and has to be rephrased by OPO so that the PIs can provide the requested information in a proper way.
9. Review of Calibration Programme proposals

5 Calibration Programme (CP) proposals were submitted for P89. They were introduced by their respective Primary Referee. The OPC discussion was supported by a pre-assessment of these programmes by the ESO internal panel, which was represented by the Head of Paranal Science Operations. In conclusion, the OPC recommended three proposals for implementation. An additional Calibration programme which had inadvertently been submitted as normal programme was discussed and approved after the Panel meetings. The outcome of the OPC votes on the P89 Calibration Programmes is summarised in Annex 4.

10. Overview of special proposal types

P89 Visitor Instrument proposals

The OPC took note of the technical assessment of the P89 Visitor Instrument Proposals presented by Dr. Dumas (Annex 5).

P89 Target of Opportunity proposals

For P89 six Target of Opportunity (ToO) proposals were submitted in OPC category A, one proposal in category B, four proposals in category C, and 33 proposals in category D. In addition 2 GTO proposals of ToO nature were submitted. Dr. Patat reminded the OPC that a ToO proposal can contain genuine ToO runs and normal runs; the latter are evaluated in the same way as Normal Programme runs. He summarized the procedures to be applied for the evaluation of ToO programmes. Finally he thanked Dr. Poggianti for taking the chairmanship of the joint ToO Panel which consolidates the outcome of the Panel discussion and provides the OPC with a merged ranked list of all recommended ToO runs.

Overview of P89 Large Programme proposals

Dr. Patat presented the list of Large Programme proposals submitted for P89 (Five in OPC category A, three in B, six in C, and five in D) and thanked the OPC members who agreed to take the role of chair of the joint LP discussions scheduled for Wednesday afternoon. Furthermore he informed the OPC that Dr. Smail and Dr. Hadrava had kindly agreed to take the role of member at large to replace the two OPC members who are conflicted in the discussion of new ESO Large Programme proposals.

Overview of P89 ESO/GTC Programmes

Dr. Leibundgut gave an overview on the status of the ESO/GTC programmes (Annex 6). He reminded the OPC that 122 clear nights on the GTC had been made available to the ESO community as part of the in-kind contribution of Spain for its accession to ESO. After the regular calls for ESO/GTC proposals in P82, P84 and P86, two additional calls had to be released in P88 and P89. For the final call in P89, 6 proposals were received: Three in OPC category A, and one proposal in B, C and D each. Their evaluation by the OPC would guide the allocation of the 10 nights still to be scheduled.
In the review of ESO/GTC programmes, the OPC should provide a ranked list of the programmes that it deemed suitable for implementation. In a second step, the latter would be evaluated by the ESO-Spain Liaison Committee, for final recommendation to the Director General. Since the Liaison Committee might conclude that some of the programmes could not be allocated time on technical or operational grounds, the OPC should identify and rank all suitable ESO/GTC programmes, even though the time required for their execution may exceed the available time.

Dr. Patat presented the list of ESO/GTC Programme proposals submitted for P89. He informed the OPC that Dr. Corradi and Dr. Meeus were appointed as members at large for the P89 ESO/GTC proposals. Dr. Schaerer and Dr. Turatto had kindly agreed to take the role of member at large to replace the two OPC members who are conflicted in the discussion of new ESO/GTC Programme proposals.

B. Panel Sessions

1. Welcome and Information to Panel Members

Dr. Patat welcomed all participants to the OPC Panel meetings. In his presentation (ANNEX 7) he elaborated on the roles of the Panels and on the procedures to be applied and gave some recommendations for the Panel meeting organization. He reminded the Panel members that feasibility questions should be submitted early on, in order to ensure that the Observatory experts could answer them before the end of the Panel meetings. Furthermore he stressed the importance of the comments to be written by the Primary Referees for communication to the proposal PIs via the webletters. He presented the proposal submission statistics, including their distribution across the various scientific categories and the demand on individual telescopes. Finally Dr. Patat thanked all the participants for the work devoted to the proposal evaluation before and during the OPC week.

Dr. Dumas presented a report on the La Silla Paranal Observatory, with emphasis on the current status of the available instrumentation (ANNEX 8).

2. Review of Applications by the Panels

The 13 Panels of the OPC met at the Commundo Center in Ismaning on November 22/23/24 (morning) to review the applications for P89. Special sessions for the joint discussion of Large Programmes were scheduled in the afternoon of November 23, to prepare recommendations to the OPC for the final evaluation of these programmes.
C. OPC meeting – Part 2

1. Joint meetings of the Panel chairs

At the beginning of the afternoon of November 24, joint meetings of the Panel chairs defined merged rankings for the ToO proposals across scientific disciplines, and coordinated the recommendations on the Normal Programmes within each of the four scientific categories of the OPC.

2. Review of ToO Programmes

Dr. Patat presented the recommendations for implementation of ToO programmes as outlined in the joint discussion of ToOs. These recommendations were unanimously endorsed by the OPC. They are summarized in ANNEX 9.

3. Review of GTC and ESO Large Programmes

ESO/GTC Programmes
The OPC Chairman welcomed the GTC representatives and the members at large to the discussion. The six proposals that were received for projects using the ESO time on GTC as part of the in-kind contribution by Spain were presented by their Primary Referees and discussed in detail. As a result of the votes that were taken on the proposals, two projects were rated very highly while the third one was rated below the first two, but sufficiently high to be considered for implementation. These three proposals will be recommended to the ESO-GTC Liaison Committee for consideration.

New ESO Large Programmes
The OPC Chairman welcomed the members-at-large to the discussion. Each of the 19 ESO Large Programmes was discussed by the OPC after a short presentation by its Primary Referee, before a vote was taken. As a result, the OPC recommended the implementation of 5 of the 19 Large Programmes submitted in P89. The outcome of the OPC votes on Large Programmes is reflected in ANNEX 10.

5. The OPC Working Group report

The main objective of the OPC Working Group composed of representatives from the OPC, from ESO and from three major observatories was to identify possible changes and improvements of the proposal evaluation process in the light of the increasing number of proposals. The conclusions and recommendations by the OPC Working Group were summarized by Dr. Leibundgut and seconded by some additional suggestions by the OPC chairman. Hereafter all aspects were thoroughly discussed by the OPC. There was a strong support for introducing a new dedicated proposal type for monitoring programmes. Despite a somewhat controversial discussion, the introduction of a one-year cycle for
La Silla proposals was supported by the majority of OPC members. There were several concerns raised regarding the suggestions to move to a one-year cycle for Large Programmes.

The suggestion to restrict the number of proposals per referee/semester was supported. Furthermore the OPC found it potentially helpful to increase the number of panels and to revise the different scientific sub-categories. The OPC also found it useful to investigate the impact of an increase of the level of triage on the workload. The OPC was not in favor of a blind test of peer review as suggested by the Working Group which would significantly increase the workload. ESO should instead conduct statistical experiments using the ESO database.

In general the OPC concurred with ESO’s position as outlined by Dr. Leibundgut in his presentation.

6. Scientific highlights

The OPC members briefly presented the scientific highlights of the science proposed in their Panels:

- **The evolution of Hα emitters between z=2.2 and z=0.8 is remarkable and SOFI observations of two sets of galaxies should shed light on the metallicity and dust evolution of bright Hα galaxies.**

- **The impact of AGN activity on the inter-galactic gas can be traced with VIMOS/IFU observations of a cluster and a group of galaxies. Extended optical emission has been detected around X-ray cavities and the new data will allow tracing the interaction with the surrounding gas with implications for AGN feedback models.**

- **FORS2 observations to determine the exact redshifts of galaxies at z=1.3 will be used to help the detection of HI in observations with the Giant Millimetre-wave Radio Telescope to determine mass density of neutral hydrogen at this redshift.**

- **The characterisation of very high-redshift gamma-ray bursts can be achieved with several instruments. A GTO programme on XSHOOTER is complemented with observations from SINFONI, HAWK-I, FORS2 and ISAAC.**

- **It is expected that shortly after the epoch of reionisation many low-ionisation absorbers should be detected towards high-redshift quasars. At test with XSHOOTER towards the recently discovered z=7 quasar is proposed to detect such an ‘OI forest’.**

- **The relation between the inner dusty torus of an AGN and the jet-launching region can be explored with AMBER. A statistical sample of AGN should be observed to determine the distribution of the inner accreting material.**

- **Microlensing in multiply imaged quasars can be used to observe structures of 0.01 parsec size. By observing the quasar at two epochs spaced exactly by the time delay, it is possible to correct for quasar variability. The temperature profile of the inner disk can be determined**
from the continuum, while the size and kinematics of the broad-line region is measured from the emission lines (XSHOOTER).

- Compact massive star-forming galaxies at z>1.5 are presumably the progenitors of today’s elliptical galaxies. The kinematics of two such objects should be determined through SINFONI observations to derive their dynamical masses.

- The very successful ToO programme to measure dwarf stars in the bulge when they are magnified in a microlensing event will be continued. First results from this project are very intriguing (UVES).

- A suspected planetary system influencing the shape of a debris disk should be confirmed with NACO. The deeper observations should confirm the planet and exact shape of the debris disk.

- Mapping the gas streams around the galactic centre should provide information whether any gas will be falling into the black hole in the next years (VISIR).

- Observations of the complex transits of an exo-planetary system may be best observed with a ringed planetary system. Such an object has been observed and shall now be investigated in more detail by NACO.

- Polarisation observations of an exo-planet can provide information, if detected, on its atmosphere as well as its spin axis relative to the line of sight (NACO).

- Measuring the astrometric motions of nearby (30pc) ultra-cool dwarf stars with FORS2 provides evidence of even lower mass companions. In addition, the parallaxes will provide the basis for solid luminosity, mass and age determinations of these cool dwarfs.

- Due to its proper motion the debris disk of Fomalhaut will move into the line of sight to a background star. This provides the unique opportunity to observe the transmission spectrum through different locations in the disk (UVES, VIMOS).

- A planetary transit can also be used to map the activity on the surface of a star. For active stars this is a unique possibility to access spatial scales unobservable in any other way. High time resolution observations with UVES will provide the necessary data.

- T Tauri stars are pre-main sequence stars can be investigated with PIONIER (VLTI visitor instrument) to map the inner disks. This should give indications on the processes during the formation of a solar system.

- Winds and outflows can be mapped by determining the magnetic field structure. With a monitoring of two such stars with HARPS it is hoped that the influence of the wind on known giant planets can be measured.

- J-band spectroscopy of a massive stellar cluster in M83 should be used to verify a new technique to estimate the metallicity. This could potentially open up a new parameter space for quantitative spectroscopy.
- **Monitoring of Mira with AMBER** should allow observing the evolution of the shocks in Mira’s atmosphere as well as the formation of dust in the expanding shells.

- A recent stellar outburst has been identified as due to a merger of a contact binary system. There also exist Spitzer pre-merger observations showing extended emission. The new SINFONI observations should search for dust and emission lines coming from shocks.

- The radial velocity distribution profile of a stellar cluster is an indication of the gravitational field and can distinguish between different models for gravity. Such observations are planned with FLAMES.

- The nature of short gamma-ray bursts remains a mystery. Characterisation of short bursts is extremely rare and needs quick telescope access. Target of opportunity observations with FORS2 and HAWK-I are recommended to follow such a burst.

- The mass-loss shells of asymptotic giant branch stars can be imaged with the sparse aperture mask of NACO. This is possible for the first time and should provide information on the chemistry and grain size of the dust close to the photosphere.

- **Accurate astrometry of recent nearby supernovae** is required to identify potential progenitors in archival data. **This has been a very successful NACO programme for several semesters.**

7. **Conclusions the OPC Chairman**

The OPC chairman, who had followed the work in the Panels as a silent observer, stated that the discussions in the Panels were very profound and on a very high level. He found it very helpful that it was possible to provide the feedback comments already during the OPC meeting. The feedback he received from many OPC members was that despite the significant workload the OPC membership is a rewarding activity.

He concluded that the P89 OPC meetings ran very smoothly and in an extraordinarily positive atmosphere and that OPC chairmanship was a very interesting experience for him. He finally thanked the Observing Programmes Office for the pleasant collaboration and the efficient organization of the meetings.

Dr. Leibundgut thanked the leaving members and the leaving OPC Chairman for the fruitful and constructive collaboration.

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