positive way with the media and the public. Educational issues were discussed during the joint EU/ESO Workshop on Teaching of Astronomy in Europe's Secondary Schools.

In Chile, the ESO staff astronomers were re-located to the Vitacura office in Santiago. From now on they will work here when they are not at La Silla. This will probably also result in better contacts with their Chilean colleagues.

6. Administrative Matters

Mr. W. Buschmeier took over as Head of Administration and among many other tasks is responsible for the implementation of the Work Package Structure (WPS); the Management Information System (MIS) is still to come. These changes must be accompanied by a very careful scrutiny of the way ESO spends its money. Although the budget of our organization may seem large, we also have many tasks to carry out. We must set strict priorities and avoid all unnecessary expenses.

7. Basic Themes for 1995

Finally, I state here some of the basic themes for 1995:

- Excellence in science
- Scientific priorities in VLTI, VLT and La Silla operations
- Scientific methodology
- VLT Execution
- VLTI Design and Planning
- La Silla reduction in quantity and improvement in quality
- Shift from development to operations
- Improvement in efficiency
- Better fiscal and management control

We want ESO to be one of the best observatories in the world, if possible the best one. This can be done, but it will not be easy! Let us work together towards this common goal!

Science on La Silla in the VLT Era

J. ANDERSEN, Chairman, ESO-STC

Over the next 6–8 years, the VLT will enter full operation on Paranal. Construction is going ahead full blast on all telescopes and the instruments for UT1 and 2, while instrumentation plans for UT 3–4 are in the definition phase. The recent ESO Workshop on "Science with the VLT" was one of the ways in which ESO is involving its user community in the process of defining the final VLT instrumentation programme.

In the VLT era, the functions and boundary conditions of the La Silla observatory will no doubt see drastic changes, for two main reasons:

1. Many of the highest priority scientific programmes will move to the VLT. Experience shows that new tasks for medium-size telescopes will also appear.

2. In making large investments in our unique new research tool in times of financial hardship, our governments expect, in return, that we trim all ESO operations and optimize the scientific output of our resources.

The VLT project is proceeding vigorously on a credible schedule. Modern management tools are going into place which will allow rational cost/benefit analyses. Thus the time is ripe to prepare specific plans for the long-term future of La Silla.

A New Working Group

The Director General has appointed a small Working Group to address the title subject of this article. Its task is to propose a long-term plan for the equipment and operation of La Silla, consistent with the scientific priorities of the community and with the available resources.

Members of the Working Group are, from ESO: Jacqueline Bergeron, Associate Director for Science; Jim Crocker, Head of Programme Office; and Jorge Melnick, Head of Operations, La Silla; from the Users Committee: Michel Dennefeld and Hans Schild; and from the STC: Johannes Andersen (Chair) and Sergio Ortolani. The Working Group may co-opt additional members later, but stresses from the outset that one of its most important tasks is to organize the widest possible consultation with the ESO user community.

The first full-day formal meeting was held on October 27. The Working Group set up a schedule for its work, defined its strategy for consulting the community, and identified and structured the main questions to address. Some first recommendations will be needed for the 1996 budget proposal.

A Call to the Community

Clearly, no credible planning can start before the scientific plans and priorities of the user community are known. Hence, the first action of the Working Group is to issue a call to the community for advice, direction and help in our further work, through this article and accompanying questionnaire (also distributed directly by mail).

To avoid misunderstanding we emphasize that, at this time, there is no a priori limit on the number, size or instrumentation of ESO telescopes to be operated on La Silla in the future, nor on the operational costs.

Clearly, the final plan must conform to the realities of our limited resources, but no idea or suggestion should be withheld at this time because rumours suggest that some specific cut has *de facto* been decided already: it has not.

The Key Questions

In order to facilitate a structured discussion, the Working Group has defined a few main programme categories within which needs can be assessed:

Stand-alone programmes for La Silla

Which programmes will continue to be done best (only?) from La Silla?

Preparations for VLT programmes

Which (new) programmes will be needed to prepare VLT projects?

Follow-up of VLT programmes

Which (new) programmes for La Silla will be generated by the VLT?

VLT programme off-loading

Which (new) programmes can be done most efficiently in tandem between the VLT and La Silla?

In all of these types of programme, your scientific needs will translate into requirements for La Silla and its instrumentation. Some of these derived questions are listed below; please consider them, but by no means feel limited to these topics:

- Scientific goals and requirements: Field, limiting magnitude, wavelength range. Are your needs met by present instruments? If not, what are the highest-priority future needs, taking into account facilities elsewhere?
- Wavelength coverage: Are there serious (if perhaps temporary) gaps in

wavelength coverage of the planned VLT instruments?

- For wide-field imaging: Field size, m_{lim}, wavelength, detector type.
- For wide-field spectroscopy: Same questions, plus requirement on sky subtraction (fibres or multi-slits).
- Spatial resolution: What are the needs for tip-tilt corrected images or full adaptive optics?
- Spectral resolution: Where is high-resolution spectroscopy done most efficiently? If on the VLT, is an interim solution needed on La Silla?
- Continuous, long-term monitoring: What is the need for La Silla-size telescopes? Dedicated telescopes run by independent teams?
- Simultaneous observations: What is the need?

Educational aspects of La Silla

As a somewhat separate, but significant issue, is La Silla important in training the new generation of European observational astronomers? If so, how should it be organized?

All Hands on Deck!

This article and the questionnaire was sent in early November 1994 to Institute Directors and individual scientists throughout the ESO Member States. The Working Group strongly encourages the widest possible distribution to colleagues of all ranks – not least the younger ones who will be the most affected by the result.

The Working Group will consider all replies with equal interest and attention. Our draft conclusions and proposals will be discussed with the community in several iterations, possibly including some form of Workshop.

Please send your reply to the ESO Headquarters in Garching (*Attention:* La Silla 2000 W.G., c/o S. Teupke) **before February 1, 1995.**

ESO's planning must continue. In your own interest, take this opportunity to help us make the best of it!

TELESCOPES AND INSTRUMENTATION

N-Band Long-Slit Grism Spectroscopy with TIMMI at the 3.6-m Telescope

H.U. KÄUFL, ESO-Garching

Careful readers of *The Messenger* may remember that the acronym TIMMI stands for Thermal Infrared Multimode Instrument. So far, however, TIMMI could be offered as a monomode instrument (i.e. imaging) only. This has now changed and TIMMI has become a true multimode instrument, combining imaging and longslit spectroscopy with $\frac{\lambda}{\Delta\lambda} \approx 200$ for the 10 μm atmospheric window. The long-slit spectroscopic mode is now implemented utilizing grisms. Rather encouraging tests and scientific exposures on astronomical objects have been possible. The grisms in TIMMI have been manufactured utilizing anisotropic etching of mono-crystalline silicon which has a refractive index of ≈ 3.4. While grisms are widely used in optical and near infrared instrumentation, TIMMI is probably the first astronomical instrument for the 10 μm atmospheric window ever using grisms manufactured from such high-index materials.

1. Short Description of TIMMI[1]

Like all infrared instruments TIMMI is a cryogenic instrument. It is mounted inside a Solid Nitrogen/Liquid Helium cryostat. Its optical principle is best described as an 'infrared EFOSC'. For technical details see e.g. Käufl et al. 1992 or 1994. The telescope focal plane is located inside of the dewar. In the focal plane there is a mechanism to exchange the cryogenic field mask with a cryogenic slit assembly (slit-width $\approx$ 0.9 arcsec). Behind an f = 103 mm collimator there is a 3.6 mm Ø pupil stop. A filter wheel is located behind that pupil stop in the collimated beam. The grisms are mounted to the filter wheel. This is followed by a lens wheel. All three mechanical functions of TIMMI are operated remotely under com-

Figure 1: *The rare but essential ingredients are shown. The three grisms are mounted in one fixture to the filter wheel. For each grism the order sorting filter, the base prism and the silicon wafer carrying the diffractive structure had to be mounted in a space of less than 1 cm^3. The mount needed to be designed compatible with operation at 60 K. The silicon wafer is mounted in direct optical contact to the prism, and great care was required during assembly to avoid contamination of the optical surfaces. It was also required to carefully adjust the orientation of the grooves parallel to the apex of the prism.*

[1] The TIMMI project started in July 1990 when ESO signed a contract with the Service d'Astrophysique of the Commissariat à l'Energie Atomique (Principal Investigator: P.O. Lagage). The instrument was then built by the SAP according to ESO's specification in a period of two years.