

# 30 Years of Italian Participation to ESO

held at the Pontificia Università Lateranense, Rome, Italy, 2–3 July 2012  
as part of the European Week of Astronomy and Space Science (EWASS 2012) meeting

Vincenzo Mainieri<sup>1</sup>

<sup>1</sup> ESO

On 24 May 1982 Italy joined ESO, becoming the eighth Member State. In the past 30 years the participation of Italy in all of ESO's endeavours has been substantial in all respects: people; fundamental industrial contributions in the construction of telescopes and infrastructures; collaboration of institutes in the development of instrument components; and science programmes. The aim of the symposium was to review critically these past achievements and discuss Italian participation in future ESO projects.

After a welcome address by the ESO Director General, Tim de Zeeuw, the programme started with a historical review by Giancarlo Setti, which illustrated the reasons why Italy did not join at the time of ESO's foundation in 1962, and described the key players, scientists as well as politicians, and the favourable circumstances that contributed to Italy becoming a Member State 20 years later. The importance of access to ESO facilities for the Italian astronomical community was stressed by Monica Tosi, as well as the significant success rate of Large Programme proposals with Italian principal investigators (PIs). The rest of the first morning was dedicated to the contribution of Italian industry to ESO projects. Massimo Tarenghi described the contributions connected with the New Technology Telescope (NTT) and the Very Large Telescope (VLT), while Stefano Stanghellini covered the involvement in the European Atacama Large Millimeter/submillimeter Array (ALMA) antenna design and construction.

In the afternoon session there were invited talks on some highlights of extragalactic scientific results obtained by Italian astronomers using ESO facilities (presented by Elena Pian, Adriano Fontana, Laura Pentericci and Giovanni Cresci), proceeded by a review talk from Alvio Renzini on high impact scientific papers led by Italian astronomers. The access to ESO observing facilities has

been highly beneficial for the scientific community in Italy and has resulted in a large number of outstanding scientific results and publications: 24 out of the 100 most-cited papers from the Paranal Observatory, and 23 out of the 100 most-cited papers from the La Silla Observatory have an Italian astronomer as first author. The first day included also a one-hour discussion forum where representatives of different ESO directorates (Martino Romaniello, Sandro D'Odorico and Bruno Leibundgut) answered questions related to operations, instrumentation and ESO policies.

The second day was opened by a review talk by Sandro D'Odorico on the Italian contribution to ESO instrumentation. The review showed how there has been an increasing involvement of Italian institutes in the past 30 years: from the first contributions to La Silla instrumentation (e.g., SUSI2 and WFI), to the involvement in several first generation (UVES, VIMOS, FLAMES, FINITO and AMBER) and second generation (X-shooter, SPHERE, ESPRESSO) VLT instruments. This positive trend continued in recent years with a strong participation from Italian institutes in E-ELT instrument studies. An important Italian contribution was also in the field of instrument control software, mostly led by the Astronomical Observatory of Trieste, and Paolo Santin gave a review talk on this longstanding and fruitful collaboration with ESO.

One of the aims of the meeting was to discuss the involvement of the Italian astronomical community in future ESO projects. In the framework of the E-ELT there were four talks on instrument studies with significant contributions from Italian institutes: CODEX (Stefano Cristiani), SIMPLE (Roberto Maiolino), MAORY (Paolo Ciliegi) and QuantEYE (Roberto Mignani). The afternoon session of the second day started with a review talk by Giuseppe Bono quantifying the impact of ESO facilities on Italian astronomical research. With a particular focus on the field of stellar astrophysics, it was recognised that access to VLT instruments has had a tremendous impact on the scientific output of the Italian astronomical community. An overview of the VST project was given by Paolo Vettolani and first scientific results based on Guar-

**ITALY, Member of ESO**

On May 24, 1982, the Italian Ambassador in Paris deposited the instrument of accession with the Ministry of Foreign Affairs of the French Republic, as foreseen by Art. 13 of the ESO Convention. With this act Italy has become a member of ESO.

Perhaps it is of some interest to summarize the main reasons which led to the end and led to this very positive decision. Apparently the main reason why Italy did not participate in the foundation of ESO in Southern Italy was the desire to participate in the founding of ESO and the equally strong desire to have a national telescope. It was of course understood, and perhaps rightly so, that the Italian Government was not willing to finance both enterprises. Eventually, priority was given to the national telescope project. This turned out to be a historical mistake. Luckily enough, in the participation of ESO which will probably permit funding of the national telescope (3.8 m) in the northern hemisphere. However, subsequently many Italian astronomers maintained a strong interest in ESO but no real step forward was taken until late 1977 when for the first time an Italian representative named by the Italian Research Council (CNR) was allowed to participate in the ESO Council meetings as an observer. This led to a very important decision which finally led to a meeting between an Italian delegation headed by the Minister of Research and Technology, Mr. V. Sestini, and an ESO delegation headed by the President of Council, Prof. F. Dade. The meeting took place in January 1980 in the town of Triunfo (Chile), the results and inspiring surroundings of which appeared in the

agreement of the basic agreement for the participation of Italy. The detailed agreement was signed by Italy in May 1980, and on December 19 of the same year the Italian Government approved and sent to Parliament the law authorizing the participation of Italy to ESO. The formal agreement of the Italian Parliament was obtained on March 2, 1982 and the law published in the "Gazzetta Ufficiale della Repubblica Italiana" No. 82 (Suppl. 10) March 1982, p. 1075.

The hope and wish is that the new membership of Italy will not only match the legitimate wishes of the Italian astronomers and astrophysicists who will now have access to the optical observations in the southern hemisphere, but will also contribute to strengthening the Organization and to further increase its rank in the development of European astronomy.

**U.S.**

With Italy and Switzerland as new members of ESO, the annual contribution level has been increased from 22.2 to 40 million DM and the share of the contributions of the various countries have changed as follows:

Member	Shares in %	DM
Belgium	6.81	6.20
Denmark	4.71	3.50
France	32.33	28.75
Fed. Rep. of Germany	32.33	28.75
Italy	17.15	15.50
Netherlands	11.68	8.30
Spain	5.81	5.25
Switzerland	5.12	4.60
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

anteed Observing Time (GTO) presented in two contributed talks (Nicola Rosario Napolitano and Enrichetta Iodice). Paolo Vettolani, INAF Scientific Director, illustrated also the plan for the involvement of INAF in future ESO projects. Finally, the last session of the meeting started with a review talk by Leonardo Testi on ALMA science, followed by several contributed talks highlighting important scientific results obtained with ESO facilities in the field of metal-poor stars (Elisabetta Caffau), globular clusters (Raffaele Gratton) and star formation (Matteo Correnti, Fabrizio Massi, Carlo Felice Manara).

The proceedings of the meeting will be published in the online version<sup>1</sup> of *Supplements of the Memorie della Società Astronomica Italiana* and the presentations are available on the symposium webpage<sup>2</sup>.

## Acknowledgements

I wish to personally thank the members of the SOC (Magda Arnaboldi, Claudio Cumani, Sandro D'Odorico, Bruno Leibundgut, Alessandro Marconi, Gianni Marconi, Nando Patat, Francesca Primas and Martino Romaniello) and the EWASS2012 LOC (Giuliana Giobbi and Livia Giacomini) for their help in organising this symposium.

## Links

<sup>1</sup> Online proceedings to be published: <http://sait.oats.inaf.it/Supplementi.htm>

<sup>2</sup> Symposium webpage: <http://www.eso.org/sci/meetings/2012/ewass2012.html>