



European Organisation  
for Astronomical  
Research in the  
Southern Hemisphere

Organisation Européenne  
pour des Recherches  
Astronomiques  
dans l'Hémisphère Austral

Europäische Organisation  
für astronomische  
Forschung in der  
südlichen Hemisphäre

## The ESO Declaration on 26 January 1954 in Leiden

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Senate Room Leiden University

Your Excellency State secretary Dekker  
Rector Magnificus and President of Leiden University Stolker  
Dean of the Faculty of Science de Snoo  
Directors of NOVA and of the Astronomy Institutes in The Netherlands  
Former Council President van der Kruit  
Former Director General van der Laan  
President Roche and Members of the ESO Council  
Colleagues and Friends

It is a distinct pleasure to be able to address you in this very special room. It is here that Ewine and I received our PhD degrees on the same day in 1984, after a public grilling by a committee that contained many distinguished astronomers, including Jan Hendrik Oort and Adriaan Blaauw. Harry van der Laan was, unfortunately, overseas. It is also here that a newly appointed Leiden professor is formally welcomed by the Rector prior to delivering an inaugural lecture. And, it is here that on 26 January 1954 the declaration was signed that led to the creation of ESO.

Let me briefly take you back nearly 70 years. Europe was struggling to get back on its feet after the most devastating war in history. Infrastructure still needed rebuilding, food rationing continued in some countries, and the Cold War was ongoing. Even so, key individuals understood that building a better future for Europe required overcoming resentments rooted in the past. They also understood that science could play a strong, sometimes even pioneering, role in this endeavour. These realizations led, for example, to the establishment of CERN in 1954 as Europe's research facility for 'nuclear research' as it was then called.

In 1953, Walter Baade, the German astronomer who had moved to California before the war to work at the leading observatory of the time, visited Leiden Observatory for a few months. He and his host Jan Oort, The Netherlands' most eminent astronomer (whose painting is on the wall to my right) discussed the future of astronomy in Europe. They concluded that in order to be able to compete with the privately funded California observatories, it was crucial for European astronomers to work together. Following further discussions, senior astronomers from six countries gathered here in Leiden in January 1954 to draw up their vision for the future of European astronomy. They agreed that they needed to develop a new Observatory jointly and understood that studying the much less explored Southern sky, where the centre of the Milky Way is much better visible than in the

North, would be the best way to make progress. This would open new perspectives for Europe's astronomers, and contribute to a strong comeback of astronomy here. In other words, they outlined the blueprint for Europe's coming Southern Observatory.

When on that Tuesday, 26 January 1954, the Leiden Declaration was signed, the authors were quite explicit in stating that for astronomers 'no task is more urgent'. It nevertheless took eight more years to establish ESO as an intergovernmental organization by the signature of the Convention on 5 October 1962 by Belgium, France, Germany, Sweden and The Netherlands. This delay was, at times, frustrating. In retrospect, I believe it was time well-spent, as much preparatory work was carried out, including site testing, first in Namibia and then in Chile. In this period Adriaan Blaauw returned to Groningen from Yerkes Observatory near Chicago and joined the ESO effort, and Lodewijk Woltjer received his PhD in Leiden. Both would become Director General of ESO in due course.

Today, ESO has not five but 14 Member States in Europe, with Brazil and Poland poised to join as soon as the respective accession agreement has been ratified. Together these countries represent approximately 30 percent of the world's astronomers.

ESO's observatories are located in the Atacama Desert in Northern Chile. The original observatory is at Cerro La Silla, a few-hour drive north of La Serena. It is still heavily used, in particular for the study of exoplanets. Further to the north, close to Antofagasta, on the 2600-metre high Cerro Paranal, ESO operates its flagship, the Very Large Telescope system, widely acknowledged to be the most advanced optical telescope system in the world. Its four 8.2m telescopes hold a veritable arsenal of state-of-the-art instruments which are continuously upgraded with the latest technology. The telescopes can also be used together in interferometric mode providing stunning angular resolution. And the 5000-metre altitude Chajnantor Plain, close to the borders with Argentina and Bolivia, hosts the APEX and ALMA telescopes for observations in the short-wavelength radio regime. ALMA comprises 66 antennas and is the most powerful radio telescope on the planet, built and operated in a pioneering global partnership between ESO, East Asia and North America. Furthermore, ESO has now embarked on the construction of the E-ELT, the European Extremely Large Telescope with a 39m main mirror, on Cerro Armazones close to Paranal. First light of this technological marvel will be in less than ten years. It will be 'the world's largest eye on the sky' for many decades and will result in tremendous new discoveries.

ESO's scientific output is also world-leading. More research papers are based on observations at ESO than from any other observatory in the world. The results include all areas of contemporary astrophysics, including studies of planets orbiting other stars, of star and planet formation, of the black hole that lurks in the centre of the Milky Way, of galaxies near and far, and of the enigmatic dark matter and dark energy.

The key to this success story is the strong partnership with the Member State community of scientists, engineers and industry. This manifests itself in many ways, but most specifically in the model invented by Harry van der Laan for the building of high-tech instrumentation for the telescopes in close collaboration with scientific and technical institutes in the Member States. In this approach, ESO procures the hardware and the institutions provide mostly staff effort, and are compensated for this extra effort by guaranteed observing time. This ensures the delivery of great instruments and science, and moreover has built a strong network of collaborations across the Member States, to the benefit of all.

The Leiden Declaration held out a promise for Europe's astronomers and ESO has delivered on this promise. However, maintaining the leading position in world astronomy requires applying the latest developments in technology to further increase the power of the telescopes. This will allow ESO to continue on the successful path that the founding fathers outlined in the 1954 Leiden Declaration. I am tremendously grateful to the Member States for maintaining their support for this vision also in sometimes difficult economic times, and am convinced that this strong support for astronomy is crucial for the long-term future of science and hence for our society.

Finally, as some of you know, Adriaan Blaauw visited Paranal in early 2010 at age 95. He was stunned by what he saw, and volunteered to me that the evolution of ESO, which had as initial aim the construction of an observatory with a 3m class telescope in the southern hemisphere, has by now most definitely surpassed even the boldest expectations of those who signed the Leiden Declaration. And the story continues!

Thank you for your attention.