



The International
YEAR OF ASTRONOMY



2009









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Millennia ago the first humans gazed in awe at the multitude of stars in the dark night sky. Thus was the birth of astronomy. Human wonderment at the cosmos appears in every culture in history. The impact of astronomy upon science and culture has been profound and is strongly linked to both cultural and technological advances. Astronomy has been the source of our deepest discoveries about the nature of the Universe and our place within it.

In 1609 Galileo Galilei first turned one of his telescopes to the night sky and made remarkable discoveries that changed the world forever: mountains and craters on the Moon, a plethora of stars invisible to the naked eye, moons around Jupiter.

Today we live in the middle of the most remarkable age of astronomical discovery in history. One hundred years ago we barely knew the existence of our own galaxy of stars – the Milky Way. Today we know that many billions of galaxies make up our Universe that originated approximately 14 billion years ago. One hundred years ago we had no means of answering the centuries old question: are there other solar systems in the Universe? Today we know of over 200 planets around other stars in our Milky Way. One hundred years ago we studied the sky using only the naked eye and optical telescopes. Today we observe the Universe with telescopes with advanced digital detectors, both on the Earth and in orbit — sensitive to high-energy gamma rays through to low frequency radio emission. Our view of the Universe is more multi-coloured than ever before.

The instruments and observatories that appear now in the 21st century promise to reveal how planets and stars assemble, how galaxies appear and grow in the Universe, how the first stars appeared in our Universe, and what the structure of our Universe actually is. Today humans are on the verge of a new age of discovery, one that will be as profound as the one Galileo ushered in when he turned his telescope on those glorious star-filled nights 400 years ago.



The Wave of Darkness — one of the suggested IYA2009 activities — is making its way across India. By turning off the lights at a predefined time all over the globe the full beauty of the sky can be appreciated.



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Astronomy, the first science in history, has played an important role in most, if not all, cultures over the ages. Thanks to advanced telescopes and space probes, astronomy continues to be a trailblazer, extending our knowledge by delivering breathtaking discoveries almost on a weekly basis.

The International Year of Astronomy 2009 (IYA2009) will be a global celebration of astronomy and its contributions to society and culture, stimulating worldwide interest not only in astronomy, but in science in general, with a particular slant towards young people. IYA2009 will mark the monumental leap forward that followed Galileo's first use of the telescope for astronomical observations, and portray astronomy as a peaceful global scientific endeavour that unites astronomers in an international, multicultural family of scientists working together to find answers to some of the most fundamental questions that humankind has ever asked. IYA2009 is, first and foremost, an activity for the citizens of Planet Earth. It aims to convey the excitement of personal discovery, the pleasure of sharing fundamental knowledge about the Universe and our place in it and the value of the scientific culture.

The vast majority of IYA2009 activities will take place on several levels: locally, regionally and nationally. Several countries have already formed national committees to prepare activities for 2009. These committees are collaborations between professional and amateur astronomers, science centres and science communicators.

At the global level the International Astronomical Union (IAU) will play a leading role as a catalyst and coordinator. While the IAU will organise a small number of truly global or international events such as the Opening and Closing Events, the main activities will take place at the national level and will be coordinated by the IYA2009 National Nodes in close contact with the IAU.





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*T*he IYA2009 is still in its early planning phase, but a number of very exciting ideas have already been put forward:

- Bring Astronomy to the citizens of Planet Earth. Enable as many people as possible to look through a telescope by organising thousands of “sidewalk astronomy” events, involving amateur astronomers and professionals alike, as well as planetariums and public observatories. Also the large professional observatories could be open to the public.
- *24 Hours of Astronomy*: A round-the-clock event, possibly set to coincide with the XXVII General Assembly of the IAU and including 24 hours of live webcasts, observing events and other activities. Once more a key goal would be to get as many people as possible to look through a telescope, and see what Galileo saw – the four Galilean moons around Jupiter. This might coincide with a “Dark Sky Event” with a controlled reduction of city illumination in a *Wave of Darkness* around the globe to raise awareness that the dark sky is a majestic, but often overlooked, cultural resource for all of humankind (security and safety issues to be considered).
- A global astronomy website. Build and maintain a website that connects all the IYA2009 National Nodes, events and key people, and reports to the public on the latest astronomical discoveries in 2009.
- *Astronomer Blog*: Astronomers from around the globe report on their day to day activities as they live the International Year of Astronomy.
- International networks: Promote and facilitate the creation of international networks to foster a global appreciation of the role and value of astronomy as a unifying activity for humankind.





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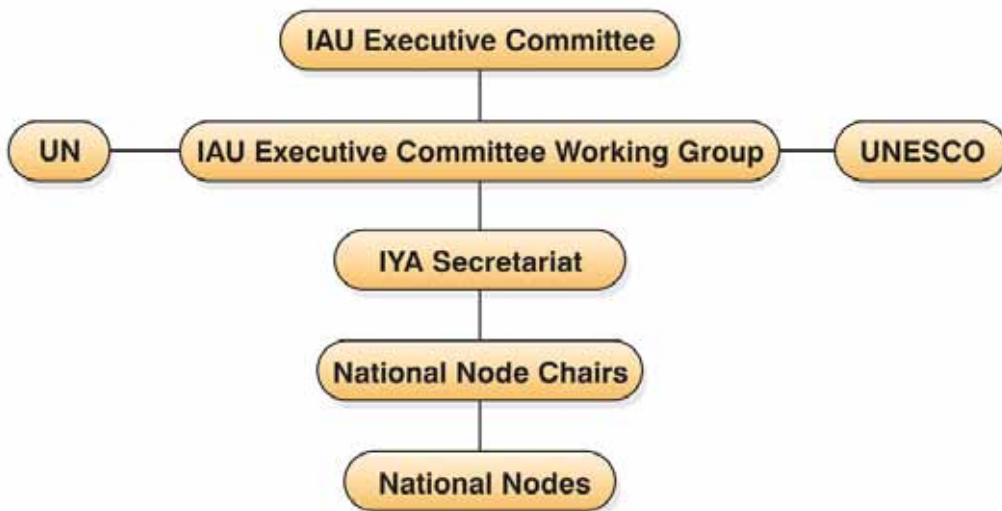
IYA2009 Organisational Structure

The IYA2009 will happen at all levels: international, national, regional and local. Most of the events will be organised locally and will rely on local amateur and professional astronomers. However, an international network of interconnecting organising bodies will ensure that the best ideas and practices are shared.

The International Astronomical Union has established an Executive Committee Working Group (IYA2009 WG), chaired by the IAU President, Catherine Cesarsky, to lead the IAU's efforts for IYA2009. The IAU envisions its role in IYA2009 as taking responsibility for:

- Organising a small number of truly global events.
- Establishing the international IYA2009 website (www.astronomy2009.org). This will serve as a focal point for IYA2009 activities and as a clearinghouse for activities and projects at the national level. It will provide information useful for the global coordination of this event. For instance:
 - Contact information for the organisers for press, educators and public.
 - Background information.
 - Latest news.
 - Lists of global and international events.
 - Lists of events in each country.
 - Links to the IYA2009 pages in each country.
 - Ideas for local, regional and national events.

The IYA2009 will most likely include a formal Opening Event, possibly at UNESCO in Paris, France (January), an event on the occasion of the XXVII IAU General Assembly in Rio de Janeiro, Brazil (August) and a formal Closing Event, possibly in Florence, Italy.





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Secretariat

*I*t is intended that an IYA2009 Secretariat will be formed under the auspices of the IYA2009 Working Group. It is foreseen that this Secretariat will carry out part of the practical work of coordinating the global events, taking care of all global promotional aspects, making global address lists, a global newsletter, and a project pool from which the national nodes can take inspiration.

The Secretariat is intended to comprise a core staff of 2 full-time persons. The Secretariat should be initiated in late 2006 and run until the end of 2010.

What should each country do?

Now is the time for each country to start planning for IYA2009! Actions that countries may consider undertaking to begin the journey to IYA2009:

- Form an IYA2009 National Organising Committee. This will serve as the national catalyst and coordinating organisation. Propose a suitable IYA2009 National Node to act as implementer and/or central point of contact for all national activities.
- Involve national professional societies and amateur astronomical societies early. They are a wonderful source of enthusiastic and knowledgeable manpower that will be very useful in 2009. Ask them to develop their own projects and ideas, which might include:
 - Local and travelling exhibits on astronomy and its achievements.
 - National lecture series organised by national societies.

- Activities in schools, universities, national and private research laboratories.
- Publicity in newspapers and specialised magazines.
- Posters in public areas and transportation systems (train, buses, airlines).
- Special edition postage stamps.
- Special programmes on national and local TV and radio.
- Register an Internet domain for each national IYA2009 website. The IAU suggests domain names of the form astronomy2009.XX or astronomy2009.co.XX, where XX is the two letter country code. The exact form will depend on how top level domains are organised in the home country.

National Node with National Node Chair

As mentioned above, the IAU will serve as a catalyst and coordinator for IYA2009. Each country participating in IYA2009 will have a national organising committee, a so-called National Node, with a Chair. It is essential for efficient coordination and sharing of information that each national committee identifies a single point of contact that will serve as the link between the IAU and the National Node. This point of contact should be sited and hosted by an institution that is capable of providing the appropriate infrastructure needed for IYA2009 activities.







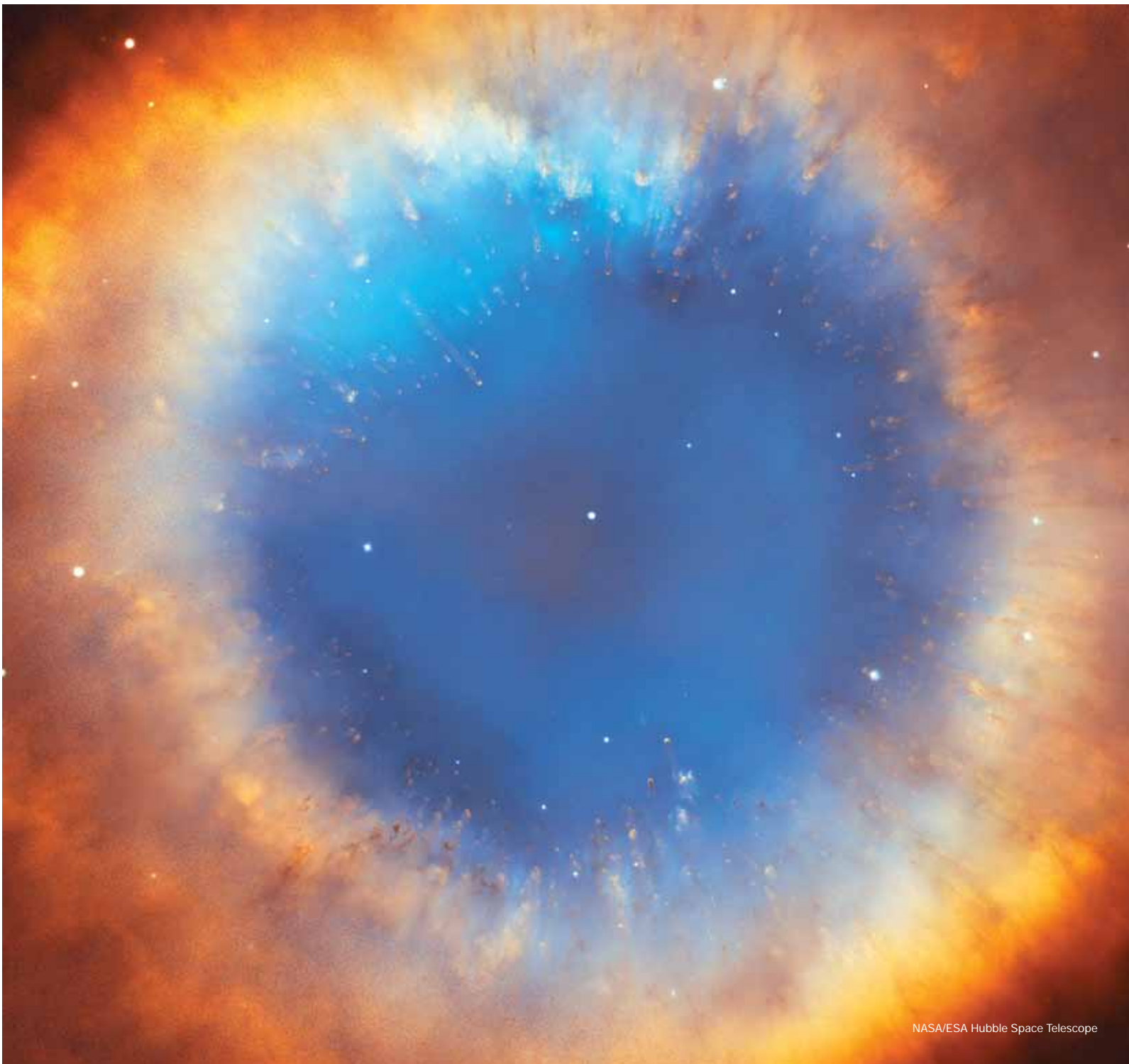
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Benefits to the developing world

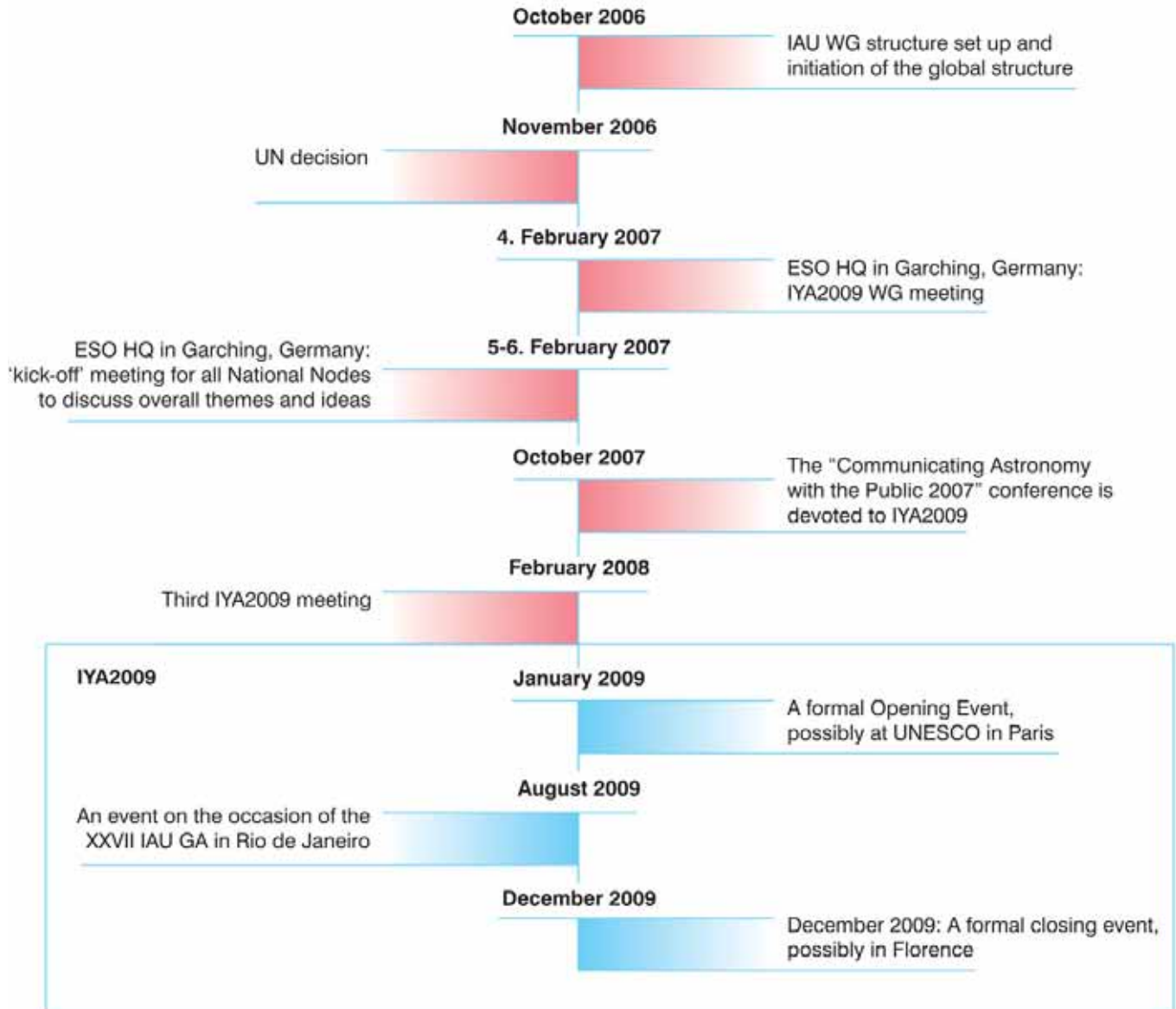
*P*rojects for IYA2009 will take place at all levels, meaning that small groups will be able to participate and demonstrate their work. Less well-established organisations from the developing world can become involved with larger organisations and deliver their own contributions, linked via a huge global network. It is extremely important to awaken the public awareness of astronomy and science in the developing world. To this end, a special programme, called Universe Awareness (UNAWA), aimed at underprivileged children in a number of countries worldwide will be launched in 2009.

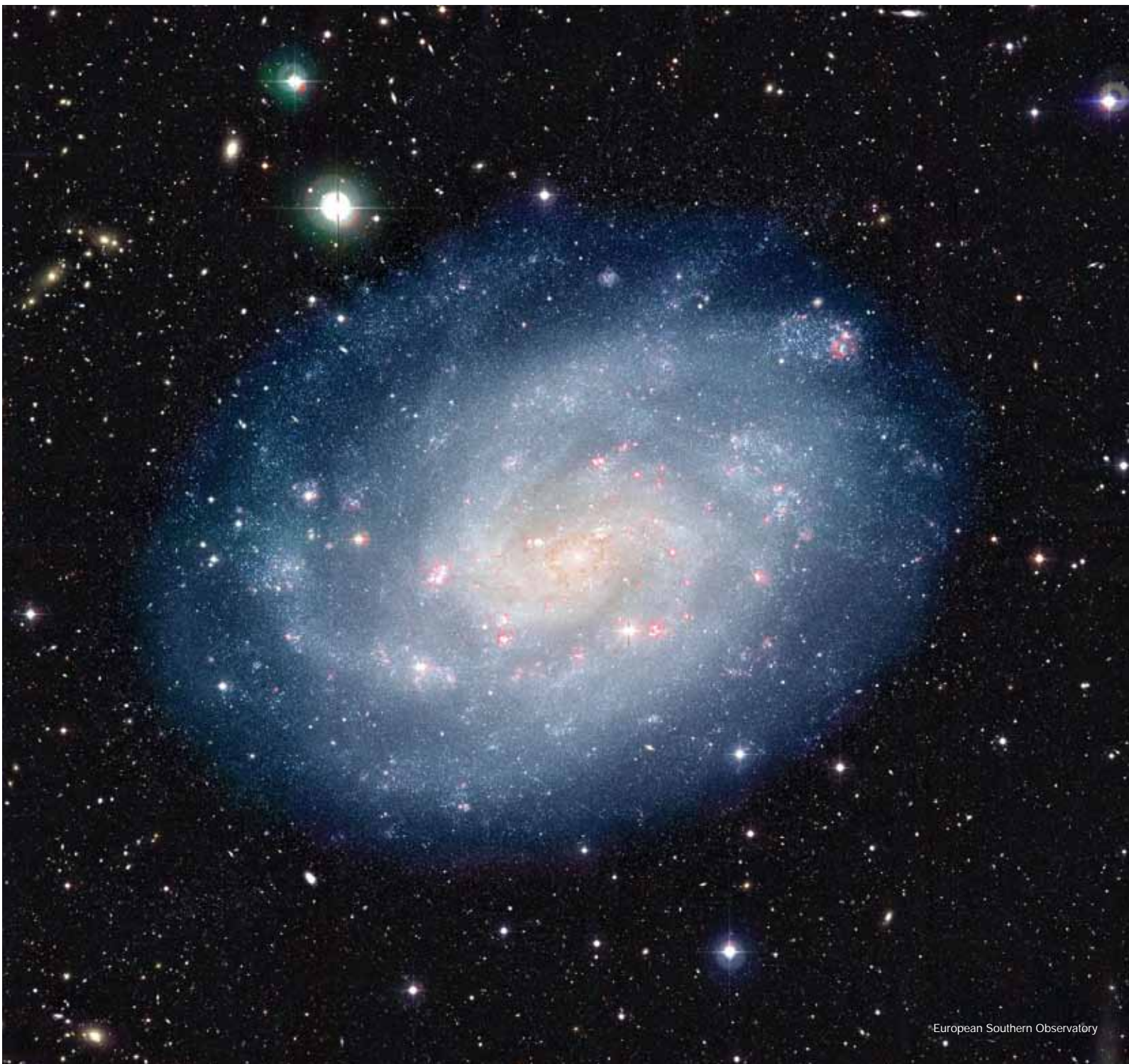
Universe Awareness is a unique activity in support of developing a worldwide scientific culture. It will expose economically disadvantaged young children, aged between 4 and 10 years, to the inspirational aspects of astronomy. By conveying a feeling for the scale and beauty of the Universe it aims to broaden the minds of the children, to enhance their understanding of the world and to demonstrate the power of rational thought.

The IYA 2009 is based on a resolution that was adopted by the UNESCO General Conference in 2005. With confirmation by the General Assembly of the United Nations, the IYA will be able to benefit fully from an endorsement by the highest international body.



Tentative timeline







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Contact

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A webpage for the global IYA2009 is under construction
and will appear at:
www.astronomy2009.org