International Year of Astronomy 2009

Final Report
Executive Summary

United Nations Educational, Scientific and Cultural Organization

International Astronomical Union

Partners for the International Year of Astronomy 2009






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The United Nations proclaimed 2009 as the International Year of Astronomy, coinciding with the 400th anniversary of the first astronomical observation through a telescope by Galileo Galilei. IYA2009, which was officially endorsed by UNESCO, is a global celebration of astronomy and its contributions to society and culture, with a strong emphasis on education, public engagement and the involvement of young people. Throughout the whole of 2009, IYA2009 events were held at national, regional and global levels. This report will give a brief account of IYA2009, from its inception to the current status, as well as looking ahead to how its legacy will influence the future of astronomy education and public outreach on a worldwide scale.

Astronomy is one of the oldest fundamental sciences and it continues to have a profound impact on our culture. We're fortunate to live in a golden age for astronomy; at a time when public interest in the subject has never been higher and discoveries regularly make front-page news around the world. This renaissance for astronomy is down to the huge progress that has been made in the field in the past few decades. One hundred years ago we barely knew the nature of the Milky Way; today we understand that many billions of galaxies make up our Universe and that it originated approximately 13.7 billion years ago. One hundred years ago we had no means of knowing whether there were other solar systems in the Universe; today we know of almost 500 planets around other stars in the Milky Way and we are moving towards an understanding of how life may have first appeared. One hundred years ago we studied the sky using only optical telescopes and photographic plates; today we observe the Universe from Earth and from space, studying different wavelengths of radiation, from radio waves to gamma rays.

In addition to celebrating the wonders of astronomy with enthusiasts, IYA2009 projects touched the lives of millions of people around the world — for many, this was their first introduction to the subject. Tens of thousands of events were held during IYA2009, but unfortunately there is only space in this Executive Summary to mention a small handful. We've included a diverse cross-section of events that are representative of the Year, but they should not be viewed as a "best of IYA2009". We are grateful to everyone who took part in IYA2009 and we would like to say thank you to you all. However, while IYA2009 has made great leaps in popularising astronomy, in many ways the work is only just beginning. For the Year to have a lasting legacy, the momentum gained must be effectively harnessed to keep pushing forward, breaking barriers and keeping this most dynamic of sciences at the forefront of people's imaginations.



International Year of Astronomy 2009: A Global Celebration



Official opening of the International Year of Astronomy 2009 at UNESCO in January 2009 with Jean-Michel Jarre as Master of Ceremony and the distinguished panel of speakers on stage. Credit: IAU/José Francisco Salgado



The International Year of Astronomy 2009 was a global effort initiated by the International Astronomical Union and UNESCO to help the citizens of the world rediscover their place in the Universe through the day- and night-time sky, and thereby engage a personal sense of wonder and discovery.

"Looking back at the activities and events and the popular reaction, we are able to truly gauge how often and how deeply IYA2009's motto, 'The Universe, Yours to Discover', was fulfilled during the Year."

Robert Williams, IAU President

Vision and Goals



Four of the Atacama Large Millimeter/submillimeter Array (ALMA) antennas. ALMA was one of the 80 observatories that took part in the Around the World in 80 Telescopes project as part of the IYA2009 Cornerstone project, 100 Hours of Astronomy. Credit: Iztok Bončina/ALMA (ESO/NAOJ/NRAO)

The Goals of the International Year of Astronomy 2009 were to:

1. Increase scientific awareness among the general public through the communication of scientific results in astronomy and related fields, as well as the process of research and critical thinking that leads to these results.
2. Promote widespread access to the universal knowledge of fundamental science through the excitement of astronomy and sky-observing experiences.
3. Empower astronomical communities in developing countries through the initiation and stimulation of international collaborations.
4. Support and improve formal and informal science education in schools as well as through science centres, planetariums and museums.
5. Provide a modern image of science and scientists to reinforce the links between science education and science careers, and thereby stimulate a long-term increase in student enrolment in the fields of science and technology, and an appreciation for lifelong learning.
6. Facilitate new, and strengthen existing, networks by connecting amateur astronomers, educators, scientists and communication professionals through local, regional, national and international activities.
7. Improve the gender-balanced representation of scientists at all levels and promote greater involvement by underrepresented minorities in scientific and engineering careers.
8. Facilitate the preservation and protection of our global cultural and natural heritage of dark skies and historical astronomical sites, through the awareness of the importance and preservation of the dark skies and astronomical sites for the natural environment and human heritage.

IYA2009 in Numbers

148 National Nodes

40 Organisational Nodes

33 Organisational Associates

Special Task Groups: 11
Official Products: 8
Media Partners: 22

28 IYA2009 Global Projects

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- Rio de Ja
- Dublin:
- New Yor

More Info

Press Releases: 34 |
astronomy2009.org
IYA2009 Google Sear
E-mails sent by the
E-mails received (aft

Global Star Parties

3 million people involved

Galilean Nights

Cosmic Diary

250 000 visitors
2100 blog entries

100 Hours of Astronomy

Free book
Postcards from the Edge of the Universe



Around the world in 80 telescopes
200 000 viewers

The World At Night TWAN

Global exhibits and workshops
1.5 million visitors since its opening in 2008

GALILEO Teacher Training Program

75 nations running the programme

Portal to the Universe

600 000+ visitors since its opening in April

IYA 2009 Dark Skies Awareness Cornerstone Project

20 000 measurements of the night sky made by citizen scientists

From Earth to the Universe

1000 exhibits in 70 countries and 40 languages

Developing Astronomy Globally

17 developing countries have received seed grants intended to stimulate astronomy educational and outreach

INTERNATIONAL ASTRO 20

216 IYA2009 stakeholders — 148 countries,
40 international organisations and 28 global projects.
815 million people worldwide were reached by IYA2009 activities
Funds equivalent to at least 18 million euros were devoted to IYA2009 activities

PARADES WITH ASTRONOMY

HI: 30 000 people at the Republic Day Parade
ANEIRO: 600 000 people at the carnival
675 000 people at St Patrick's Day Parade
K: 1 000 000 at the Columbus Day Parade

Weekly Newsletters: 130
News Features: 250, News Updates: 1020
CH Results (eng): 2 340 000
IYA2009 Secretariat: 36 500
TER SPAM FILTER): 285 800

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09

Planetarium Shows



Touching the Edge of the Universe
Seen by 100 000 people

ALMA: In Search of our Cosmic Origins
Seen by 250 000 people

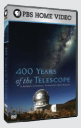


Two Small Pieces of Glass
Seen by 500 000 people

Movies



Eyes on the Skies
Award-winning movie
450 000 copies distributed



400 Years of the Telescope
Award-winning movie
Seen by 10 million people



BLAST!
Award-winning movie
Seen by 1.2 million people



Naming Pluto
Award-winning movie

Galileo Mobile

2500 children in 30 schools
covering a distance of 7000 km



IYA2009 in Space

Japanese astronaut Koichi Wakata: IYA2009 Flag
Canadian astronaut Bob Thirsk: IYA2009 Special Message
US astronauts Scott Altman and Michael Massimino: Galileo's telescope
IYA2009 logo on the Ariane 5 launcher



Stamps

70 postal agencies
150 new stamps inspired by astronomy

Twitter

7000 followers
For the 10 000 people in the meteorwatch event
Perseid meteor shower was the #1 top trending topic of the day



Galileoscope

180 000 distributed in 105 countries

Facebook

6500 Fans



Leadership and Coordination

International Years have a long and varied history, from the first International Polar Year in 1882/1883, to modern equivalents, such as the International Heliophysical Year in 2007/2008. Studying these previous initiatives, it became clear that a recipe for a successful International Year could be concocted.

The first and most important ingredient is to have a good idea for an International Year and to have a reason for organising it. This must be something to capture people's imagination, be relevant to society, and have the potential to continue beyond the year in question. Next, it must be possible to put a strong case together to persuade policy-makers and other stakeholders of the value of having a year dedicated to that theme. This leads on to the secret ingredients: a UN Body recommendation and a UN Proclamation. These are large hurdles to overcome, but without them, official International Year status is impossible. An International Year should be of global importance, and as such, a large network is required — ideally, this should already be in existence and simply built upon. There must also be ideas for national and worldwide activities, as well as the funds to realise these plans. And last, but not least, there must be genuine enthusiasm, engagement and excitement from all of the involved parties.

For IYA2009, once the UN Proclamation was confirmed, organisation could begin in earnest. The IAU was the logical choice for the role of central coordinator, as it is the world's largest body of professional astronomers. UNESCO was appointed the lead UN agency. The IAU also established an Executive Committee Working Group (IYA2009 WG), chaired by the then IAU President, Catherine Cesarsky, to lead the IAU's efforts for IYA2009.

One problem quickly became apparent: the UN recognises 194 sovereign states, but the IAU only has 64 national members. To overcome this deficit, professional astronomers from non-IAU member countries who had strong links to education and public outreach were sought. Where this was not possible, highly regarded amateur and enthusiast astronomers were identified. Neighbouring countries were also asked to support nearby nations who might be lacking experts, and help was also requested from UNESCO delegations. Over time, a long list of astronomy experts from nations around the globe was amassed. These would later become the 148 National Nodes and Single Points of Contact. During



International Conference of Young Astronomers, on 7 September 2009 in Kracow, Poland. Credit: Jan Pomierny

this research phase, successful multinational science communication and education institutions often cropped up. It was recognised that the valuable expertise at these institutions represented an incredible potential that could support and implement activities around the globe, and so the 40 Organisational Nodes were established.

In July 2007, the IYA2009 Secretariat was established at the European Southern Observatory's Headquarters in Garching, Germany — a central hub for IYA2009 activities. At the Secretariat Pedro Russo was responsible for coordinating IYA2009 throughout the planning, execution and evaluation phases.

By this time, a significant amount of groundwork had already been completed and a clear view of the Year was emerging. Yet, without adequate funding, such a grand venture would never have become a reality. National funding was deemed to be the responsibility of the National Nodes, as this was the only practical way of dealing with so many countries. However, there was a need to have a global fund to finance the IYA2009 Secretariat, to provide operation and communication products, and to provide seed funding for the Cornerstone projects. Initial estimates put this funding between €300 000 and €1 000 000, depending on how many major sponsors could be found.

To raise funds, organisations, institutions and agencies related to astronomy, space science and the natural sciences were contacted. Private companies were offered the opportunity to become Global Official Partners or Global Sponsors. The strategy was to send direct mail initially and to then follow up with personal calls to specific contacts and fundraisers. As a result, 33 Organisational Associates agreed to provide financial backing, along with three Global Sponsors. Unfortunately, no Global Official Partners were found, but a respectable total of €650 000 was guaranteed to the IYA2009 Secretariat. The other IYA2009 stakeholder budgets, for the National Nodes, Organisational Nodes and Global Fund, amounted to at least 18 million euros — and this financial investment was complemented by enormous in-kind contributions from amateur and professional astronomers, educators and organisers who helped to run the events.



IYA2009 Global Projects

IYA2009 Global Projects:	23
Global Projects budget:	€5 000 000
Number of people reached by Global Projects:	26 500 000

The IYA2009 Global Projects have been more successful than anyone initially dared to imagine. Two worldwide star parties were held in 2009: 100 Hours of Astronomy in April, and Galilean Nights in October. In total, more than three million people were involved, with many members of the public seeing celestial objects through a telescope for the very first time — a life-changing experience. A highlight of 100 Hours of Astronomy was the record-breaking and unprecedented live 24-hour webcast, Around the World in 80 Telescopes. The webcast gave members of the public a snapshot of life at astronomical research observatories around the world during a single 24-hour period. The marathon webcast, which had at least 200 000 viewers worldwide, gave a striking demonstration of the global diversity of astronomical research.

Another highly successful Global Project, From Earth To The Universe, brought the striking beauty and intriguing science of astronomy to the public in a photography exhibition. It was staged in unexpected and easily accessible locations, such as parks, metro stations, shopping malls, hospitals, libraries, and even prisons. From Earth To The Universe was exhibited in 2009 in about 1000 locations in 70 countries and translated into 40 languages and has been viewed by at least 10 million people. The exhibition is still appearing at venues around the world to this day.

Meanwhile, Developing Astronomy Globally distributed more than 5000 telescopes to over 30 developing countries to help promote astronomy education and outreach. Furthermore, 17 developing countries have received seed grants to promote education in astronomy and outreach activities, such as education workshops for teachers, preservation initiatives for indigenous astronomy knowledge, and the translation of educational resources into local languages. As part of the IYA2009 legacy, the IAU is now implementing Astronomy for the Developing World, a pioneering ten-year



Children in the Peruvian community of Patacancha gather around a telescope during a GalileoMobile activity. Credit: Ventana/GalileoMobile/IYA2009

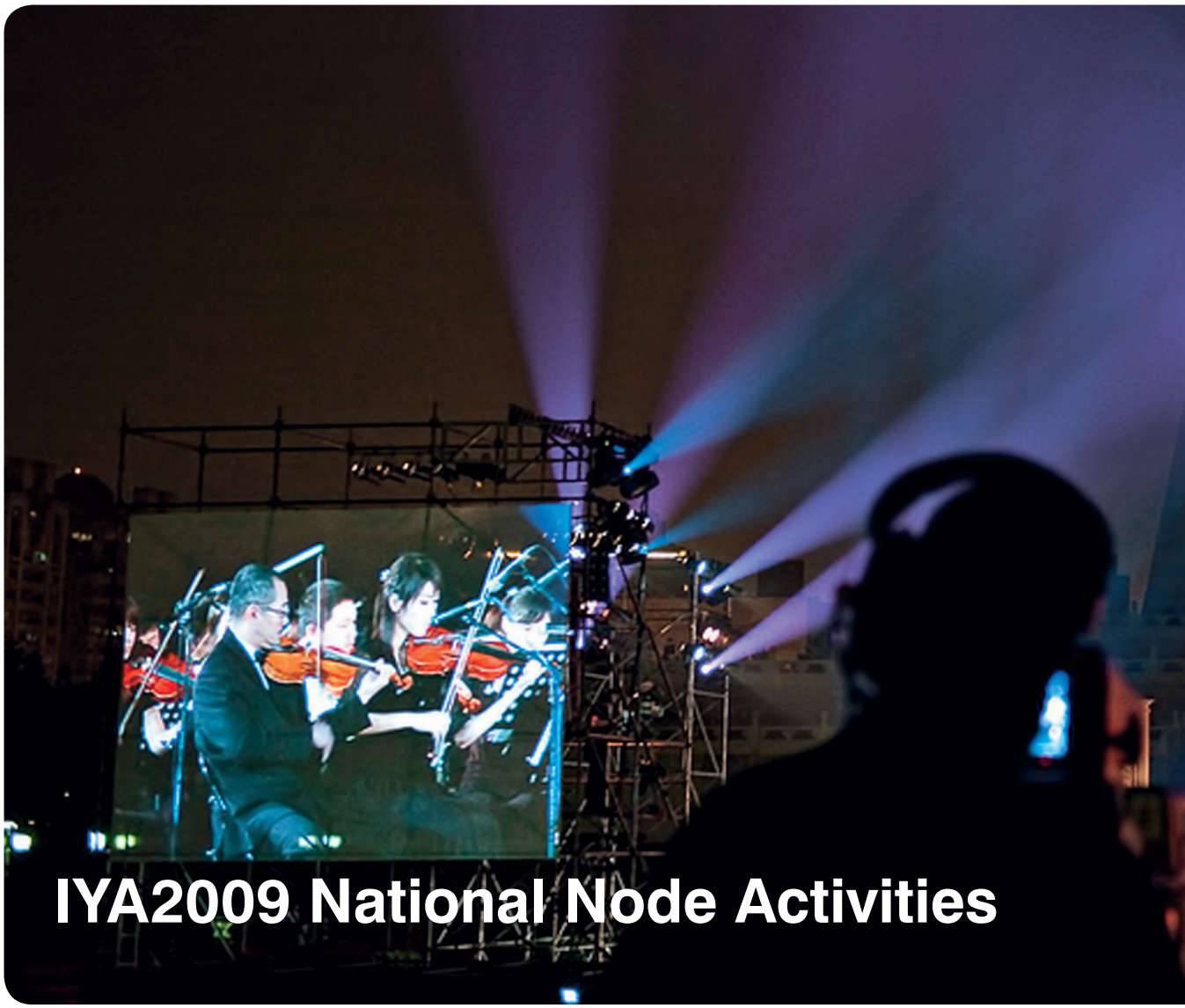
plan designed to stimulate astronomy education in developing countries. The IAU has chosen the South African Astronomical Observatory as the location for its Office for Astronomy Development (OAD). The OAD will coordinate a wide range of activities designed to stimulate astronomy throughout the world.

The IYA2009 presence in new media has been tremendous: there were millions of IYA2009-related web stories, blog entries, Facebook posts and tweets. Of particular note are the IYA2009 Cornerstone projects, Portal to the Universe and Cosmic Diary. The Portal to the Universe website is the first one-stop shop for astronomy news and has, so far, had more than 300 000 visitors since its launch in April 2009. Cosmic Diary is a blog for which 60 professional astronomers from around the world wrote more than 2100 posts about their work, family life, friends and hobbies, attracting more than 250 000 visitors. The bloggers also produced feature articles about their areas of astronomy expertise, explaining complex ideas in easy-to-understand language. These features formed the basis of a published book, *Postcards from the Edge of the Universe*, providing a permanent record of the project.

Another lasting legacy of IYA2009 is the Galileoscope, a low-cost telescope kit that was specially designed for the project. More than 110 000 of these educational tools have been distributed in 96 countries, including 17 developing countries, and another 70 000 are in production. Furthermore, IYA2009 saw the start-up of the Galileo Teacher Training Programs — one of the largest astronomy education networks, involving more than 75 nations.



IYA2009 travelling exhibition in India during 100 Hours of Astronomy. Credit: IYA2009/India



IYA2009 National Node Activities

IYA2009 National Nodes:	148
National Node budget:	€10 900 000
Number of people reached by National Node activities:	791 600 000

IYA2009 was a global project, with 148 nations committed to supporting the Year. As part of their efforts, participating countries formed National Nodes, which coordinated IYA2009 activities in their own countries. Most of the incredible initiatives in IYA2009 were suggested and developed by individual countries. For example, IYA2009 supporters in Sweden created the world's largest model of the Solar System, where the Sun is represented by the huge spherical Ericsson Globe Arena in central Stockholm and the planets are distributed through the country. Finland also made a huge scale model of the Solar System, with the Sun marked by a giant sticker in the busy Helsinki Central Railway Station, where about 50 000 people saw it every day.

Other examples include the display of 500 metres of astronomical images in some Paris metro stations and the Guinness World Record achieved by the efforts of more than 300 000 people in Portugal who helped to paint astronomical motifs onto the world's longest canvas — a staggering 4.8 kilometres in length.

Some countries reported impressive participation figures for their events. In Canada, nearly two million people registered on a website to say they had experienced a "Galileo moment" during IYA2009 — an engaging astronomical experience that had opened their eyes to the Universe. Meanwhile, over in Japan, more than seven million people observed the night sky through a telescope during the Year.

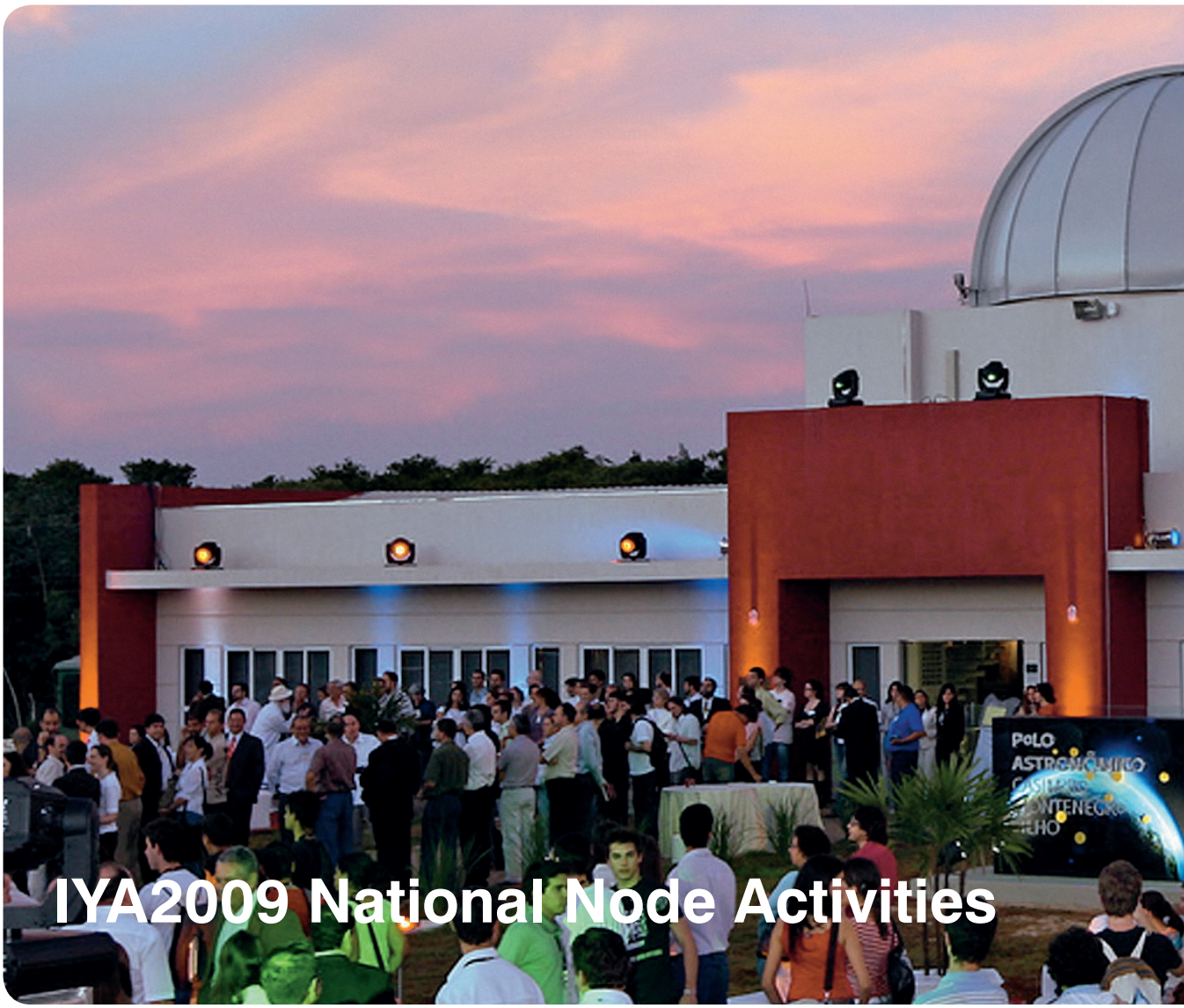
The National Taiwan University Symphony Orchestra performs Gustav Holst's *The Planets* suite to 8000 people, accompanied by a video suite, during the IYA2009 event of 21 March 2009 at the National Chiang Kai-shek Memorial in Taipei. Credit: José Francisco Salgado



Universe Awareness activity in Tanzania. Credit: UNAWE/Tanzania



Venetia Burney Phair, the first person to suggest the name Pluto for the object discovered by Clyde Tombaugh in 1930, talking with some pupils in the UK. Credit: Naming Pluto/Father Films



IYA2009 National Node Activities

The highest participation figures came from India, where over 700 million people were reported as being reached by IYA2009 events, with most people reached when Indian astronomers proudly demonstrated their work at the Republic Day parade in Delhi. With 30 000 people watching in person and an estimated 700 million watching on television, this was by far the biggest single event in the IYA2009 programme.

In Brazil, a budget equivalent to two million euros helped the organisers to reach 2.2 million people, with more than 16 600 events around the country, from national Olympiads of astronomy and astronautics to exhibitions and regional meetings on astronomy teaching. There was a big focus on education, with educational astronomy kits being produced, and 55 000 astronomy books and 20 000 Galileoscopes being distributed to state schools.

South Korea was one of the most active countries in IYA2009, with more than 500 activities reaching some 11 million people. A partial solar eclipse on 22 July was the highlight of the year, with viewing events widely held across the nation in 45 locations with over 400 000 people reached, from kindergarten children to the President of the Republic of Korea.

In the United Kingdom, the organisers used a budget of more than one million euros to reach over one million people: 300 000 at local star parties, 300 000 at IYA2009 planetarium shows and the 400 000 people who attended the global exhibition project, From Earth To The Universe.



Public Event at Planetario Polo Astronomico in Foz do Iaguassu, Brazil. Credit: IYA2009 Brazil



From Earth To The Universe exhibit in Huntsville, USA. Credit: FETTU



More than 300 000 people participated in this year's astronomy-themed Oceans festival in Portugal. It featured a Guinness World Record: a 4.8-km long canvas painted with the help of enthusiastic volunteers. Credit: IYA2009/Portugal


Macclesfield
Astronomical Society
TELE
THE UNIV



Star party at Bollington, UK. Credit: Andrew Huggett



IYA2009 Organisational Node Activities

IYA2009 Organisational Nodes:	40
Organisational Node budget:	€2 700 000
Number of people reached by Organisational Node activities:	9 200 000

IYA2009 involved a large number of Organisational Nodes. These institutions have a successful background in science communication and education and gave their valuable expertise by supporting and implementing activities around the globe. As IYA2009 was such a large endeavour, the support of these Nodes was central to achieving the goals set out for the Year.

The contribution of the European Southern Observatory (ESO) is a good example of the role of the Organisational Nodes during IYA2009. ESO hosted the IAU's IYA2009 Secretariat, was one of the Organisational Associates and was also closely involved in the resolution submitted to the UN by Italy, which led to the UN's 62nd General Assembly proclaiming IYA2009. It also led four of the thirteen IYA2009 Cornerstone projects, together with a range of ESO-specific activities throughout 2009.

NASA also developed several initiatives throughout the year, such as the Great Observatories Image Unveiling, in which images were sent to over 100 planetariums, museums, nature centres and schools across the US to mark Galileo's birthday on 15 February. Other highlights included the contest, Hubble's Next Discovery — You Decide; the national programme, NASA IYA2009 Student Ambassador; and the conference, Women in Astronomy.



IYA2009 planetarium show for blind people in Valencia, Spain.
Credit: IYA2009/Spain

The IYA2009 logo was proudly displayed on the Ariane 5 launcher that lifted the European Space Agency's (ESA) Herschel and Planck spacecraft into space. ESA contributed to IYA2009 in many other ways, including the Groningen Herschel Discovery Truck — a mobile, interactive exhibition, which brought science to students and the general public in Europe. There was also a portable planetarium show called Planck — *Looking Back to the Dawn of Time*, which used a 10-metre diameter dome and featured a model of the *Planck* spacecraft and illustrative hardware pieces.

Planetariums from all around the world, represented by the International Planetarium Society, were heavily involved in IYA2009, producing new planetarium shows, as well as hosting lectures, star parties, outreach programmes and exhibits during 2009. Three international shows were produced for IYA2009: *Two Small Pieces of Glass* attracted 500 000 visitors; the show *ALMA: The Search for our Cosmic Origins* was seen by 250 000 people; and the ESA production *Eyes on the Universe* had an audience of 100 000.



May 2009 also saw the launch of the highly anticipated European Space Agency missions Herschel and Planck, which are probing the origins of our Universe. The IYA2009 logo was proudly displayed on the Ariane 5 launcher that lifted the two spacecraft into space. Credit: ESA



Legacy

From its inception, IYA2009 was always intended to be more than just a series of activities occurring over twelve months; it is a springboard for the popularisation of astronomy with a much longer timeframe in mind.

Cornerstone projects, and most of the Special projects, have also continued beyond 2009. The designation of astronomical sites by the UNESCO World Heritage programme has made large steps forward in 2010. More work remains to be done in the coming years, but protecting and preserving our astronomical cultural heritage for future generations to appreciate must remain a priority. Similarly, discussions must continue to address the gender-balance issue in astronomy, as highlighted in the Cornerstone project, She is an Astronomer. The project has reignited the debate and it is expected that many more conferences and events on this hot topic will be organised in the years to come.

Other ventures are also set to continue, such as the Special project, The World At Night, which shows stunning images above landmarks around the globe. In the same vein, the exhibition, From Earth To The Universe, continues its world-wide tour and is available for additional venues. Another IYA2009 Cornerstone project, the Portal to the Universe website — the first one-stop shop for astronomy news — is expected to continue to grow and expand. Its long-term aim is to become the ultimate source of astronomical updates for the public, giving everyone easy access to the latest developments in research.

Several movies, often accompanied by books, have been produced and are an excellent example of a tangible, lasting legacy of IYA2009. The film *400 years of the Telescope* has given rise to a widely distributed planetarium show that will continue to fascinate and educate the public for many years to come. And *Eyes on the Skies*, an IAU-produced educa-



From Earth To The Universe exhibit at the Iranian Parliament. Professor Sobuti, an astronomer, shows the Crab Nebula to Ali Ardashir Larijani, Chairman of the Iranian parliament and other parliamentarians. Credit: Irene Shivaei/StarPeace

tional DVD movie, which celebrates the 400th anniversary of the telescope can look forward to an extended career in classrooms, astronomy clubs and homes around the world, as it is subtitled in many languages. Combining increased opportunities for developing nations with improved education, the Universe Awareness project (UNAWE) tackled difficult issues head-on during IYA2009. Its aim of creating an international awareness of our place in the Universe and on Earth, targeted at children in underprivileged environments, has inspired many. Clearly this programme must continue in 2010 and beyond.

Large-scale public observing programmes, following the model of the successful IYA2009 worldwide events 100 Hours of Astronomy and Galilean Nights will continue to be organised beyond the Year.

Last, but not least, the network that IYA2009 has created is one of its most precious legacies. However, in some National Nodes, the points of contact will cease their educational and public outreach activities in the near future, and so it is of paramount importance to find new contacts in order to keep open the channels of communication.



Conclusion

For all involved in the organisation and preparation, and for those who took part in the events, IYA2009 was a huge success, with a lot of positive feedback and buzz surrounding the Year. The impact of IYA2009 on the scientific literacy of the general public will take time to be assessed, but we believe that the communication of astronomical research throughout 2009 will contribute to a significant increase in public understanding. Projects like the Portal to the Universe website helped bring the latest cutting-edge science research to a wider audience. The global star parties, 100 Hours of Astronomy and Galilean Nights, as well as the Galileoscope project and other similar low-cost telescope kits (like the Japanese You are Galileo! project), have promoted the excitement of observing the night sky, which we believe will instill a lifelong passion for astronomy.

IYA2009 has also helped to modernise the image of scientists and astronomers, through both the Cosmic Diary blog, in which working astronomers posted entries about their work, and also through the She is an Astronomer project, which promotes gender equality. The stereotype of astronomers as oddball figures with long beards in towering observatories is not only inaccurate, but also damaging to the field. Helping to reshape preconceptions and expectations is notoriously difficult and the extent to which IYA2009 has had a positive impact in this area will be monitored over time.

During 2009, and beyond, developing nations have enjoyed increased links with astronomy groups and organisations at home and abroad, thanks to Developing Astronomy Globally and also to the general networking effort. New openings and opportunities at both the professional and amateur level instigated during IYA2009 are set to continue, so making the best use of the expertise within these countries, and helping global astronomy research and science communication. The IAU has been at the forefront of these efforts, and consolidating links between the IAU and developing nations is seen as a priority in the brand new IAU Strategic Plan for Astronomy Development. From the IYA2009 networks, we know that efficient organisation is the foundation of success. This is when having an organisation like the IAU to coordinate efforts really comes into its own.

Education was a strong theme during the Year, emphasised in particular by the Galileo Teacher Training Cornerstone project,



IYA2009 Blue Moon Event during the New Year's Eve event at the Calgary Zoo, Canada. Credit: Astronomy Calgary/IYA2009 Canada

and there is much potential in building on the existing efforts to extend the reach of science in general and astronomy in particular, on a world level.

Thus, IYA2009 is a springboard for the enhancement of IAU educational activities as set out in the Strategic Plan. Furthermore, some of the IYA2009 Global Projects have been incorporated into IAU plans. A prime example is Dark Skies Awareness, which means that participation in the protection of the night sky is an essential duty of the IAU.

With IYA2009 we hope to have achieved an increased awareness that we are living in an extraordinary era of discoveries about the Universe; introduced a modern image of astronomers to the public; demonstrated that a career in astronomy is also for women and minorities; created international networks of scientists, communicators, teachers and amateurs, which will remain in existence far beyond 2009; produced a wealth of educational material on astronomy in the form of books, films, movies, planetarium shows, and astronomy-related theatre and music productions; initiated a new set of goals for the IAU embedded in the Strategic Plan, of a partnership between IYA2009 and UNESCO; and inspired a new generation of amateur and professional astronomers.

There are also lessons to be learned from IYA2009. This was the first time that such a huge network — consisting of 148 nations — worked together on a single science communication venture, and therefore not all of the challenges could be met. By reflecting on these shortcomings, though, we hope to give future astronomy popularisers a head start and to help them make their own projects as effective as possible.

However, there is much to celebrate about IYA2009, and by any measure it was an immense success. Reports from the IYA2009 network (148 countries, 40 international organisations and 28 global projects) show that at least 815 million people worldwide were reached by IYA2009 activities. Star parties, public talks, exhibits, school programmes, books, citizen-scientist programmes, science–arts events, IYA2009 documentaries and parades honouring astronomy and its achievements, made IYA2009 the largest science event so far this century. The compilation of the achievements of the IYA2009 stakeholders is undeniably impressive.

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