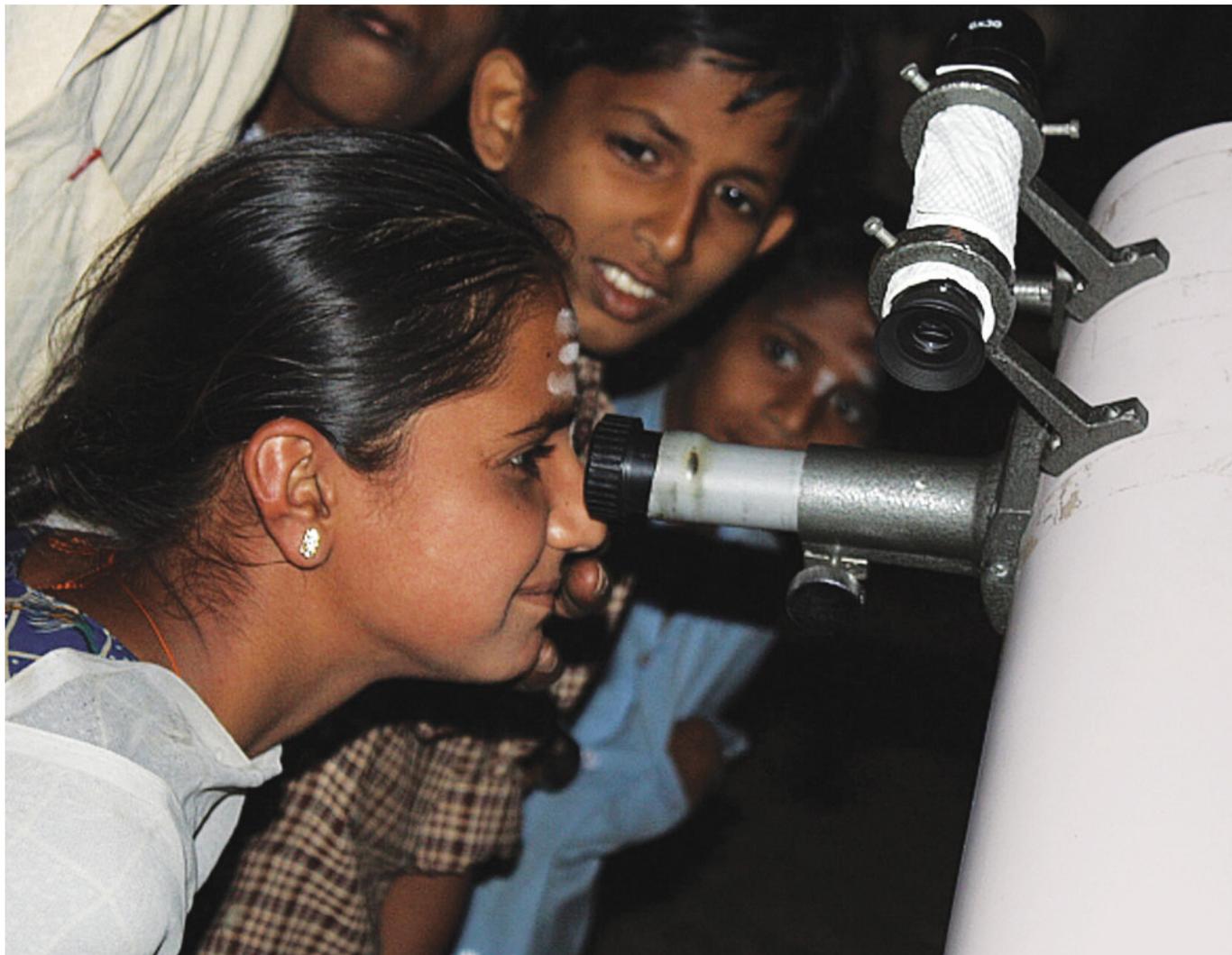
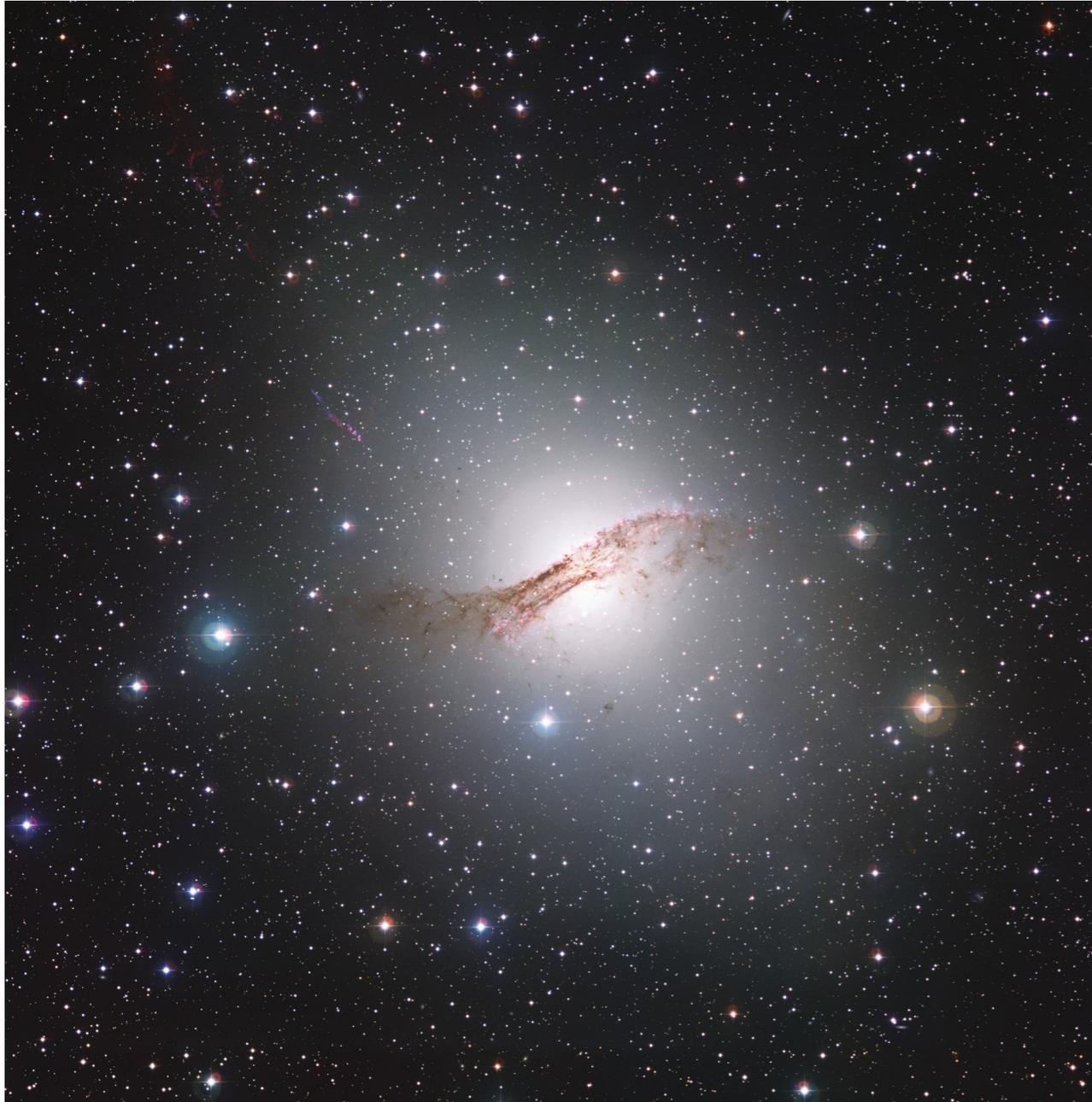


# IAU100: Uniting our World to Explore the Universe

*International Astronomical Union  
1919-2019: 100 years.*





The peculiar galaxy Centaurus A (NGC 5128) is pictured in this image taken with the Wide Field Imager attached to the MPG/ESO 2.2-metre telescope at the La Silla Observatory in Chile. With a total exposure time of more than 50 hours this is probably the deepest view of this peculiar and spectacular object ever created. Credit: ESO.

## Foreword

The International Astronomical Union (IAU) will celebrate its 100th anniversary in 2019 under the theme “Uniting our World to Explore the Universe”. Following the remarkable success of the International Year of Astronomy 2009, this will be a global celebration highlighting the major achievements of astronomy in the past century, with a strong emphasis on the use of astronomy as a tool for education, development and diplomacy.

Astronomy embodies a unique combination of science and technology, and is also deeply rooted in our cultures and history. The inspirational aspects of astronomy, the common heritage of the sky and its cultural and historical significance, all place astronomy in a privileged position for engaging with the public and for helping us realise how much our society has evolved over time. For instance, one hundred years ago we did not know much about our own galaxy, whether there were planets outside the solar system or that light was not the only carrier to disentangle the mysteries of the universe. Nowadays we know that the Universe is composed by billions of galaxies, we have found over 3700 planets orbiting other stars and with the gravitational waves detections we have entered a new era of multimessenger astronomy. All of these have been possible thanks to crucial technological advancements during the past century and international collaboration.

Thus, the IAU 100th anniversary provides a wonderful opportunity to highlight to the world the fantastic science, technology and inspiration that astronomy has brought us over the past century. We are preparing a number of exciting Flagship programmes for 2019. This brochure outlines some of the activities planned at the global level and how they will be implemented. There are outstanding opportunities for everyone to participate in the IAU100 celebrations and we really need your help to make it possible.

We have an exciting two years ahead of us and I am really looking forward to work and engage with all of you in the coming years to make this celebration a global success.

**Ewine van Dishoeck**

*IAU President-Elect  
IAU100 Task Force Chair*



# Vision and Goals

In 2019, the International Astronomical Union (IAU) will celebrate its 100th anniversary. To commemorate this milestone, the IAU will organise a year-long celebration to increase awareness of a century of astronomical discoveries as well as to support and improve the use of astronomy as a tool for education, development and diplomacy under the central theme *“Uniting our World to Explore the Universe”*.

The centennial celebrations will stimulate worldwide interest in astronomy and science and will reach out to the global astronomical community, national science organisations and societies, policy-makers, students and families and the general public.

The IAU100 activities will take place at global and regional levels, and especially at the national and local levels. To coordinate the initiative, the IAU has set up the IAU100 Secretariat that is preparing a comprehensive programme of Flagship initiatives to reach targeted audiences worldwide through the IAU National Outreach Coordinators and National Astronomical Societies, which will set up National IAU100 Task Force to ensure the worldwide success of the initiative.

## Goals:

1. Increase awareness of progress and excitement in astronomy over the past century, in particular:
  - The importance of collaborative enterprise of astronomy as a whole,
  - The importance of technology development for astronomical progress,
  - The coordinating role of the IAU fostering communication and exchange of ideas for the global astronomical community.
2. Promote widespread access to astronomy knowledge and observing experiences.
3. Support and improve use of astronomy as a tool for education, development and diplomacy.
4. Support and improve an inclusive, equalitarian and diverse astronomy community.
5. Facilitate the preservation and protection of the world’s cultural and natural heritage of dark and quiet skies.
6. Raise awareness and discuss prospective new exciting developments in the next 100 years of astronomy.



The moon and the arc of the Milky Way over ALMA. Credit: ESO/S. Guisard

# IAU100 Flagship Programmes

The IAU Flagship Programmes are global programmes on specific themes that will help to achieve the IAU100's main goals. Each of the Flagship will carry several different projects focused on the following themes:

- *IAU100 Celebrations*
- *Astronomy for Society*
- *IAU100 Exhibition*
- *New Worlds: 'Are we alone?'*
- *100 Years of General Relativity: Eclipse*
- *Astronomy Natural and Cultural Heritage*
- *Inclusive Astronomy*
- *Astronomy for Education*
- *Star Parties*



Gazing into the deep universe. Credit: ESO/B. Tafreshi (twanight.org)

# IAU100 Celebrations

Through the organisation of different high-level events, the IAU100 Years celebrations will bring together high-level representatives, policy-makers and astronomers to discuss about the potential of astronomy as a tool for development, education and diplomacy and to raise awareness of the coordinating role of the IAU for the global astronomical community over the past century.

## *Selected projects:*

### **IAU100 YEARS OFFICIAL KICK-OFF EVENT AT PALAIS DES ACADÉMIES IN BRUSSELS (BELGIUM):**

The official kick-off will be organized on 11-12 April 2019 at the location where the IAU was founded in 1919. The event will feature an outstanding programme including high-level representatives, policy-makers and astronomers.



International Year of Astronomy 2009 Opening Ceremony at UNESCO HQ in Paris, France. Credit: IAU/José Francisco Salgado.

# Astronomy for Society

This Flagship programme will focus on highlighting the importance of astronomy for society. Astronomy is part of every culture's history and roots and is one of the few scientific fields that appeals directly to society. For its technological scientific and cultural dimensions, astronomy is a unique tool for furthering sustainable global development and help achieve the United Nations Sustainable Development Goals.

## *Selected projects:*

### **ASTRONOMY AND SOCIETY EVENTS:**

Following the format of kick-off event at Palais des Académies, we will organize small-scale Astronomy for Society Events around the world, at least one per continent, bringing together policy-makers and astronomers.



"People enjoying simulated night sky." Credit: Sze-leung Cheung.

# IAU100 Exhibition

Under this Flagship programme, the IAU100 Secretariat will produce an exhibition that will showcase major achievements in astronomy in the last century and selected IAU milestones. The exhibition will not focus only on the past, but also on the interdisciplinary and international scope of the field as well as researching the origins and dynamics of the Universe is not a one-off discovery, but a continuous process that takes decades to fully grasp and comprehend. One of the outcomes of this Flagship Programme will be to produce an universal exhibition that could be scaled, adapted and replicated worldwide through the IAU100 National Task Forces.

The main exhibition will be officially launched during the IAU General Assembly in Vienna (Austria) on 20-31 August 2018 and will be displayed in several selected locations during 2019.



Girl observing a picture of a galaxy during Leiden Observatory Open Day 2017. Credit: Luis Calçada.

# New Worlds: 'Are we alone?'

The actions of this Flagship Programme will foster a sense of global citizenship and critical thinking by encouraging the public at large to reflect about our place in the universe through the organisation of activities related to exoplanets and astrobiology.

## *Selected projects:*

### **NAME EXOWORLDS:**

Following previous IAU experience, during the IAU 100th anniversary we will organize a new edition of the Name ExoWolds project that will offer the possibility to all nations in the world to give a name to an exoplanet system.



Artist's impression of the TRAPPIST-1 planetary system. Credit: ESO/N. Bartmann/spaceengine.org

# 100 Years of General Relativity: Eclipse

This flagship programme will commemorate the 100th anniversary of the solar eclipse observations that served as the first successful test of Einstein's Theory of General Relativity by raising awareness about the importance of gravity and Einstein's Theory of General Relativity.

## *Selected projects:*

### **EINSTEIN SCHOOLS:**

To promote an understanding of the importance of the 1919 eclipse measurements and the value of astronomical technology in astronomical measurements, this project will form and support worldwide network of Einstein schools with classes and clubs desiring to promote learning in astronomy about gravitation and general relativity.



Children observing solar eclipse in Nepal. Credit: Shamiksha Sharma.

# Astronomy Natural and Cultural Heritage

This flagship programme will focus on raising awareness that astronomy represents a rich and significant aspect of cultural and natural heritage by organizing actions that highlight the importance of preserve it and passed onto future generations. In this framework, an important focus will be the promotion of the preservation of quiet and dark skies.

## *Selected projects:*

### **DARK SKIES FOR ALL:**

The project will address two fundamental issues: education on light pollution and public engagement on light pollution protection actions, including government lobbying actions, making the term “light pollution” a household term.



Star trails over Atacama desert (Chile). Credit: Diana Juncher/ESO.

# Inclusive Astronomy

The actions developed under this Flagship Programme will support and promote inclusive, equitable work environments within astronomy-related careers. In addition, the projects will focus on facilitate the access to astronomical resources and careers for people with special educational or physical needs, or those who might be excluded for their particular race or gender as well as provide access to excellent role models and mentors.

## *Selected projects:*

### **INSPIRING STARS**

This is a collaborative Initiative in which resources related to astronomy research, communication and development are collected via an open call around the world and combined in a unique interactive exhibition.



"Astronomy" as it is represented in Sign Language in different countries. Credit: IAU-C1 WG3 and collaborators.

# Astronomy for Education

This flagship programme will improve science literacy, in particular in the field of astronomy by inspiring and promoting the interest for the subject in young minds as well as training teachers and educators on the use of new tools and methodologies that enable the development of scientific literacy and acquisition of 21st century skills.

## *Selected projects:*

### **100 ASTRONOMY TOOLS AND RESOURCES:**

The project aims to build a series of tools, lessons, and courses that can be used to enrich teacher's daily practices. It will extract the high-quality materials from the IAU's Cosmic Light EDU kit for the International Year of Light, IAU astroEDU resources, OAD-funded resources, and other key science education resources. The project will be presented as a go-to package for teachers to be used in and out of classroom.



UNAWA astronomy activities in the Philippines. Credit: UNAWA.

# Star Parties

Through the organisation of sidewalk astronomy events, this Flagship Programme will enable as many people as possible, especially children, to look at the sky through a telescope and gain a basic understanding of the Universe. As part of the Flagship we will also commemorate the 50th anniversary of the Moon landing in 2019.

## *Selected projects:*

### **100 HOURS OF ASTRONOMY 2.0:**

The project will invite amateur astronomers, educators, professional astronomers, planetaria, science centres and more to arrange astronomy-related events around the world during this 4-day period to reach out the public at large. The effort will be inclusive by encouraging the participation of everyone by following the guidelines of IAU Astronomy for Equity and Inclusion Working Group.



Children in awe while looking through a telescope for the first time. Credit: Babak Tafreshi.

# Make it happen!

## Support IAU100

Whether you are a professional working in astronomy, an amateur astronomer or just someone interested in astronomy we would love for everyone to get involved in the celebrations. There are many ways you can participate:

### > *Implement one of the endorsed activities locally:*

For each Flagship, there are several projects being set up that will be implemented by the National IAU100 Task Forces in different countries. You can help them reach out to as many people as possible in your city.

### > *Develop an activity under one of the Flagship themes:*

You can also develop your own project following any of the Flagship themes. Just reach to us with your idea and if it follows the IAU100 Goals we will include it in the IAU100 Event Programme. In addition, there will be funding opportunities to support projects developed under Flagship themes.

### > *Implement your own idea:*

If you have any innovative idea that you think does not fall under the Flagship themes but still fulfills the IAU100, don't hesitate to develop the activity and reach out to us to include it as part of the IAU100 Event Programme.

### > *Reach out to your National IAU100 Committee:*

Getting in contact with your IAU100 National Committee is a great opportunity to benefit from larger networks to disseminate further your event, share best practices and find out about what will be organized in your country/region.

### > *Spread the word:*

Don't hesitate to spread the word to your colleagues, and perhaps especially to your friends and family outside the community that already understands and appreciates the impact of astronomy in society. We should not keep the celebrations to ourselves, but we should make sure that we involve everyone!

### > *Become an IAU100 Institutional Partner:*

There are a variety of opportunities for organizations to become IAU100 Institutional Partners. For inquiries about such partnership opportunities, please contact the IAU100 Secretariat.



Teacher training at the Teide Observatory in Spain. Credit: Elena Mora/IAC/GTTP.

# Contacts

## *IAU100 Secretariat*

[www.iau.org/iau100](http://www.iau.org/iau100)

## *Jorge Rivero González*

IAU100 International Projects Coordinator

[contact@iau100.org](mailto:contact@iau100.org)

Tel.: +31 71 527 5737

## *IAU100 Global Sponsor*

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## *IAU100 Institutional Partners*



Cover: Indian girl looking through a telescope during an IYA2009 outreach activity in Bangalore, India. Credit: Naveen Nandappa/She is as Astronomer.

Back Cover: Star Party at Blackfoot Crossing Historical Park east of Calgary, Alberta. Credit: 2010 Alan Dyer/AmazingSky.com.



Thor's Helmet Nebula. Credit: ESO/B. Bailleul.



[www.iau.org](http://www.iau.org)

