

Global Astronomy Month 2011

Final Report

GLOBAL
ASTRONOMY
MONTH

ONE PEOPLE + ONE SKY

APRIL 2011

WWW.GAM-AWB.ORG

ASTRONOMERS
WITHOUT BORDERS

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Putting the world spotlight on astronomy for the entire month of April 2011, Global Astronomy Month 2011 (GAM 2011)—Astronomers Without Borders' second annual month-long sky celebration—brought together new ideas, new opportunities, and night-sky enthusiasts worldwide, all affirming and celebrating *One People, One Sky*.

Summary

More than 40 programs and events filled the month of April 2011 during the second annual Global Astronomy Month. Enthusiasts in more than 140 countries took part in a broad range of programs highlighting Saturn, the Moon, the Sun, a meteor shower and more. Observing was the most common program activity. Thousands viewed through telescopes provided by amateur astronomers and science centers, and online programs with live interaction between the host and attendees extended the opportunity to thousands more regardless of location or local circumstances. The importance of dark skies was also stressed in several programs along with new, innovative programs such as the popular Astropoetry Blog and a live, online performance that included images sent on a half-million mile round-trip to the Moon and back.

The expansion of programs and participation just one year after the inaugural Global Astronomy Month demonstrates the desire for a central celebration of astronomy following the success of the International Year of Astronomy 2009. Global Astronomy Month 2012 is sure to be even greater.

Global Astronomy Month 2011 was made possible by the generous support of Sky and Telescope Magazine (Media Sponsor), OPT and Explore Scientific.

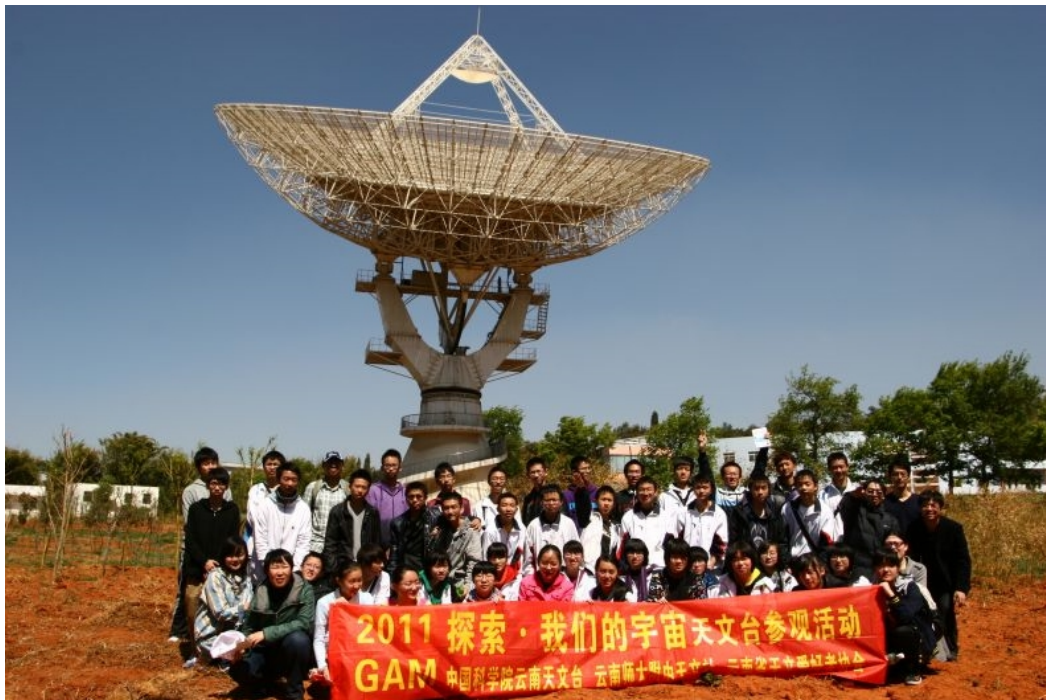


Image credit: SFAC Kunming Yunnan, China

GAM2011 Programs and Events

More than 40 programs and events were held during April, including collaborations with many other organizations. A list of all programs is included at the end of this report.

A few major GAM 2011 programs are summarized below:

Saturn Watch (April 2-3)

The weekend of April 2-3 kicked off Global Astronomy Month with two nights focused on Saturn. Astronomers Without Borders volunteers were joined by others including those from the Saturn Observing Campaign (<http://saturn.jpl.nasa.gov/education/saturnobservation/volunteermembers/>), a volunteer network sponsored by NASA's Cassini Mission to Saturn.

On April 3, Saturn observing was also offered online from the Virtual Telescope at Bellatrix Observatory in Ceccano, Italy (see "Around the Ringed Planet" under Remote Observing Programs).

Global Star Party (April 9)

At Astronomers Without Borders' second annual Global Star Party, on Saturday evening, April 9, skywatchers around the globe turned out to discover, share, and celebrate the night sky.

Members of astronomy clubs in many nations treated their communities to views of the starry night with the first-quarter Moon and Saturn as the centerpiece. Typically these dedicated individuals set up their telescopes at well-attended urban venues such as science centers, planetariums, convalescent hospitals, rest homes, military bases, busy sections of town, and libraries.

Many of these community star parties included innovative ideas such as pre-star party talks and poetry readings, tutorial sessions on how telescopes work, telescope-making demonstrations, enlisting the participation of local schools, helping Boy and Girl Scouts with the Astronomy Merit Badge, and setting up an Internet or cell phone connection for live interaction with viewers in another part of the world.

Lunar Week (April 10-16)

Lunar Week consisted of a week-long series of programs dedicated to the Moon and designed to help people rediscover our closest companion in space. Lunar Week took place while the Moon was well-placed for observation in the evening sky, between the first-quarter and full phase.

Activities included Moon-themed star parties to observe the Moon by telescope and naked eye, educational programs, online observing events, competitions and a celebration of the Moon in different cultures. Moon-related information was distributed, including answers to such common questions as: Why is it important to explore the Moon? How does the Moon affect our daily life? Why is the Moon visible during the day or night? Why do its phases change?



Image credit: S.P.A.C.E., India

SunDay (April 17)

The SunDay program was planned as an easy (and inexpensive) way to promote astronomy outreach using our Sun as the starting point.

In a typical program, the presenter showed the solar image and talked about such diverse topics as nuclear fusion, convection, color/temperature relation, space weather, the solar cycle, the electromagnetic spectrum, etc. A list of Sun-oriented educational resources is available on the GAM2011 webpage, at:

<http://www.astronomerswithoutborders.org/gam-2011-resources/links.html#Solar%20Resources>

Lyrids Watch (April 21-22)

Another featured observing program was the Lyrids meteor shower, which happens each year from about April 16 to 26 (with the most meteors seen on April 22).

A meteor shower occurs when Earth goes through a swarm of material in space and the meteors appear to come from one point in the sky known as the radiant—in this case in the constellation of Lyra (giving the annual event its name). These meteors occur when the Earth's orbit takes it through the debris left behind by Comet C/1861 G1 Thatcher, a regular visitor to the inner solar system. The recorded history of the Lyrid meteor shower is longer than any other, with records of observations going back 2,600 years.

Remote Observing Programs

GAM 2011 included several online, live events from the Bellatrix Observatory in Ceccano, Italy, inspired by the great success of those hosted the previous year and by the inputs from the online audience.

The planned online events were:

- 1 April 2011: Online Messier Marathon
- 2 April 2011: Around the Ringed Planet
- 9 April 2011: Stars for All
- 12 April 2011: Walking on the Moon
- 17 April 2011: Here Comes The Sun
- 1 May 2011: Write Your Name in The Sky

All but the last two scheduled events (which were cancelled due to bad weather) were highly successful, with a huge number of viewers connecting with our live page.

Looking at the remote observing statistics for the month, we get these very remarkable numbers:

- Total visitors (computers connected): 28,795
- Pages seen: 972,717
- Total hits: 3,254,351
- Countries joining: 121
- Bandwidth: 92.8 gigabytes

Dark Skies Awareness Programs

With half of the world's population now living in cities, many people have never experienced the wonderment of a pristinely dark sky. A number of dark skies events and activities were held worldwide during GAM to promote public awareness on how to save energy and save our night sky. Specific programs included:

- Globe at Night, which measures local levels of light pollution over a 2-week period
- International Dark Sky Week, April 1-8
- International Earth & Sky Photo Contest
- World Night in Defense of Starlight, April 20
- Dark Sky Rangers, designed to involve young people in preventing light pollution
- One Star at a Time, creating accessible public spaces
- Dark Skies Awareness 10-minute audio podcasts

Planetarium Programs

The Astronomers Without Borders project “Planetarians Without Borders” is focused on bringing together planetarium professionals around the globe in programs and events meant to be sustainable even beyond GAM. Ongoing programs launched in April include:

- Cosmic Concert: An online “Cosmic Concert”— a live piano solo performance—was broadcasted and livestreamed to planetariums worldwide on April 28.
- Searching for New Skies: A chance for the audiences to experience whole new skies, in faraway places where other people are also discovering their sky.
- Dark Skies Awareness: An event comparing the sky inside the planetarium with the real sky outdoors, creating awareness of the need to preserve night skies.
- SunDay: A planetarium show dedicated to the Sun—getting to “Know your Star.”
- Lunar Week: A planetarium show on how our Moon is seen through different cultures.
- Astropoetry Sessions: Freely combining images, video, stars, and music, while reading poetry under a starry dome.

Astropoetry Blog

Twenty-four fine poems were received for the GAM 2011 Astropoetry Blog. Contributors ranged in age from 8 to 84, living in such diverse places as India, Japan, the Philippines, Romania, Ireland, and the U.S.A. (Arizona, California, Maine, and New York).

A "first" (for us) was to post an example of the "haiga" form—invented in Japan 500 years ago—which combines a picture and haiku poem into one integrated work of art. Our "astrohaiga" came from Romania and combined a stunning photo, by Valentin Gregore, of the full Moon rising over the Canary Islands Observatory and a poignant haiku poem by Andrei Dorian Gheorghe.



Image credit: Petr Horalek

OPTICKS Project (April 10)

A collaborative project led by Daniela de Paulis with Jan van Muijlwijk and CAMRAS at Dwingeloo radio telescope in the Netherlands, OPTICKS is a live performance during which digital images of the seven primary colors of the spectrum are transmitted to the Moon by radio telescopes in Brazil, the UK or Switzerland, reflected off the Moon's surface, received back on Earth by the Dwingeloo radio telescope, and converted back into the original images.

The OPTICKS performance, broadcast live on the Internet on April 10, featured live and pre-recorded image sonifications by Marty Quinn and Design Rhythmics Sonification Research Lab, a process that conveys image color, brightness and location information through music, allowing sight-impaired listeners to perceive the main characteristics and qualities of the images.

Four paintings created by students during astronomy workshops led by Deirdre Kelleghan, Astronomers Without Borders' National Coordinator for Ireland, were also "Moonbounced."

GAM2011 Sponsors

It is with the most sincere appreciation that Astronomers Without Borders thanks its sponsors for Global Astronomy Month 2011. It is their support that makes it possible to organize and conduct the greatly expanded GAM 2011. Please keep these supporters of Global Astronomy Month in mind when making decisions regarding your activities in astronomy.



GAM 2011 Media Sponsor

Sky and Telescope Magazine

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GAM2011 Online

The screenshot shows the homepage of the Astronomers Without Borders website. The header features the organization's logo and tagline "ONE PEOPLE ★ ONE SKY" against a night sky background with silhouettes of people observing. A navigation menu includes links for HOME, ABOUT AWB, NEWS, PROJECTS, AFFILIATES, SUPPORT AWB, and AWB COMMUNITY, along with a search bar. The main content area is titled "GLOBAL ASTRONOMY MONTH 2011" and includes a circular graphic with the text "GLOBAL ASTRONOMY MONTH APRIL 2011". Text on the page states: "Global Astronomy Month 2011 is now over. Watch for news and program reports, and plans for GAM 2012 soon!" and "Global Astronomy Month continues the excitement of the unprecedented International Year of Astronomy 2009 (IYA2009). IYA2009's 100 Hours of Astronomy showed what the astronomy community can do working together. Amateur astronomers, clubs, science centers and others held events by the thousands around the world, attracting the largest public audience ever. And everyone wanted more. Global Astronomy Month is Astronomers Without Borders' response, bringing new ideas, new opportunities and again bringing enthusiasts together worldwide, celebrating One People, One Sky." Social media sharing buttons for Facebook (578 shares), Twitter (61 tweets), and a Buzz button (26) are visible. A "CONNECT WITH AWB" section offers options to "Donate to AWB", "Member Login", "Subscribe", and "Join our Community", with a note that "1196 guests online". Logos for "SKY & TELESCOPE", "OPT Telescopes", and "EXPLORE SCIENTIFIC" are displayed at the bottom.

Website

The Astronomers Without Borders website, including the Global Astronomy Month 2011 sub-site, had 2.3 million hits during the month of April 2011. These hits came from 36,146 visitors (17,791 unique) who viewed an average of 5.3 pages per visit. These counts don't include the websites of partners in GAM programs. For example, the Virtual Observatory, which links back to the GAM site and supports Astronomers Without Borders year-round, had more than 28,000 visitors during six remote observing sessions as a part of Global Astronomy Month. The overall total visitors to GAM 2011 websites and event venues can't be accurately estimated.

Global Astronomy Month 2011 was a truly global celebration of astronomy in all its forms, with visitors from 145 countries to the Astronomers Without Borders website during April 2011. While the great majority of visitors were from the USA and Canada, active astronomy communities in small countries were evident as well. Slovenia was the third most common country for visitors and tiny Sri Lanka ranked sixth worldwide. Indonesia, Romania, China, Iran, Russian Federation countries – all with active astronomy communities participating in GAM 2011 – were also in the top 12 visiting countries along with Brazil, Germany and Great Britain.

With the popularity of Global Astronomy Month growing well beyond expectations, a considerable upgrade in website resources is being planned for the 2012 edition.

Social Networks

GAM social networks included a Facebook page and a Twitter stream, each updated frequently leading up to, throughout and after GAM. Both media were instrumental in promoting individual participation and interactions throughout the month. From March through May there were 149,758 views of 1106 posts on the Facebook page. There were 219 tweets in the GAM Twitter stream during April with more than half retweeted during the most popular activities. Both the Facebook page and Twitter stream had the greatest participation around the time of the Global Star Party on April 9.

GAM Blog

The GAM Blog featured posts by 17 bloggers from three continents during the month-long celebration. Professional and amateur astronomers, science journalists and outreach specialists contributed their personal perspectives on astronomy and the global movement to connect people through astronomy. Astronomers from NASA, the Planetary Society and professional observatories joined enthusiasts and activists to create a fascinating mélange of articles. The blogosphere also took note, reposting and linking back to GAM Blog posts and writing new articles about GAM programs.

GAM 2011 Organization

International astronomy outreach efforts such as GAM take careful planning, organization and networking. Major efforts were made in raising awareness and generating interest worldwide, as well as maintaining interest and momentum throughout the month. Networking was key to the success GAM achieved in only its second year.

Astronomers Without Borders' network of National Coordinators in more than 40 countries is instrumental in raising awareness and encouraging participation in global programs through local activities. Events organized by AWB Affiliates – organizations ranging from astronomy clubs to corporations – are critical to this effort.

At the center of it all was the GAM 2011 Working Group – 23 people from 14 countries – organizing and managing all aspects of GAM. The GAM 2011 Working Group included the chairs of each individual program's working group and several members at large.

Collaboration was critical in creating the broad range of programs in GAM 2011, as with many Astronomers Without Borders programs. AWB collaborates with existing program organizers to extend their reach through its global networks. The result is international projects with greater awareness, larger audiences and more participants, along with greater opportunities for everyone.

Working Group Members

Chair

Mike Simmons (USA)

Coordinator

Thilina Heenatigala (Sri Lanka)

Communications

Oana Sandu (Germany)
Bob Eklund (USA), Editor

Dark Skies

Connie Walker (USA)
Audrey Fischer (USA)

Lunar Programs

Rosa Doran (Portugal)

Solar Programs

Ricardo Cardoso Reis (Portugal)

Observing Programs

Donna Smith (USA)
Peggy Walker (USA)

Planetariums Programs

Lina Canas (Portugal)
Sotira Trifourki (UK)
Christopher Phillips (US)

Remote Observing Programs

Gianluca Masi (Italy)
Valentina Romeo (Italy)

Programs for People with Disabilities

Marcelo Souza (Brazil)
Manoj Pai (India)

Web Site

Jennie McCormick (New Zealand)
Jessi Kingan (USA/Thailand), Graphics
Pierre Paquette (Canada), Graphics
Valentin Grigore (Romania), Resources
Avivah Yamani (Indonesia), Blog
Raven Yu (Philippines), Blog

Looking Ahead

With Global Astronomy Month 2011 behind us, Astronomers Without Borders turns its attention to the next edition of this new annual worldwide celebration of astronomy. New programs and partnerships will ensure that GAM will continue to grow. The transit of Venus in June 2012, an extremely rare event, will be a catalyst for heightened public astronomy awareness in the spring, bringing new opportunities for public engagement.

Global Astronomy Month is a project of **Astronomers Without Borders**, a US 501(c)(3) tax-exempt non-profit corporation. For information on Global Astronomy Month 2012 programs or sponsorship contact Mike Simmons at mikes@astronomerswithoutborders.org.

Astronomers Without Borders www.astronomerswithoutborders.org

Global Astronomy Month www.gam-awb.org



Photo: Valentin Grigore - SARM

Image credit: Valentin Griogore, SARM, Romania

Global Astronomy Month 2011 — List of All Global Programs

Solar Programs

1. SunDay

Observing Programs

2. Beauty without Borders: Saturn - Lord of the Rings
3. Global Star Party
4. Meteors without Borders: Lyrids 2011

Remote Observing Programs (Collaboration with Virtual Telescope)

5. Online Messier Marathon
6. Saturn Watch - "Around the Ringed Planet"
7. Global Star Party - "Stars for All!"
8. Lunar Week - "Walking on the Moon"
9. SunDay event - "Here Comes The Sun!"
10. Write Your Name in The Sky!

Dark Skies

11. International Dark Sky Week (in collaboration with IDSW)
12. One Star at a Time
13. GLOBE at Night (in collaboration with GaN)
14. Earth and Sky Photography contest (in collaboration with TWAN)
15. Dark Skies podcasts on 365 Days of Astronomy (in collaboration with GaN)
16. World Night in Defence of the Starlight (in collaboration with StarLight)

Lunar Programs

17. Educator's Corner (in collaboration with GTTP)
18. Let's Observe and Talk about the Moon (in collaboration with GTTP)
19. Live Images from the Moon (in collaboration with GTTP)
20. MoonDays Poster (in collaboration with GTTP)
21. The Moon Looks Like a Big Cheese (in collaboration with GTTP)
22. My Crescent Moon Looks Different (in collaboration with GTTP)
23. MoonDays Researcher's page (in collaboration with GTTP)
24. MoonDays NewTech page (in collaboration with GTTP)
25. Moonlight Poetry
26. Rover Challenges (in collaboration with GTTP)
27. GTTP Moondays Links (in collaboration with GTTP)
28. GTTP MoonDays 2.0 (in collaboration with GTTP)
29. Moon and Culture
30. Lunar Week

Programs for Differently Abled

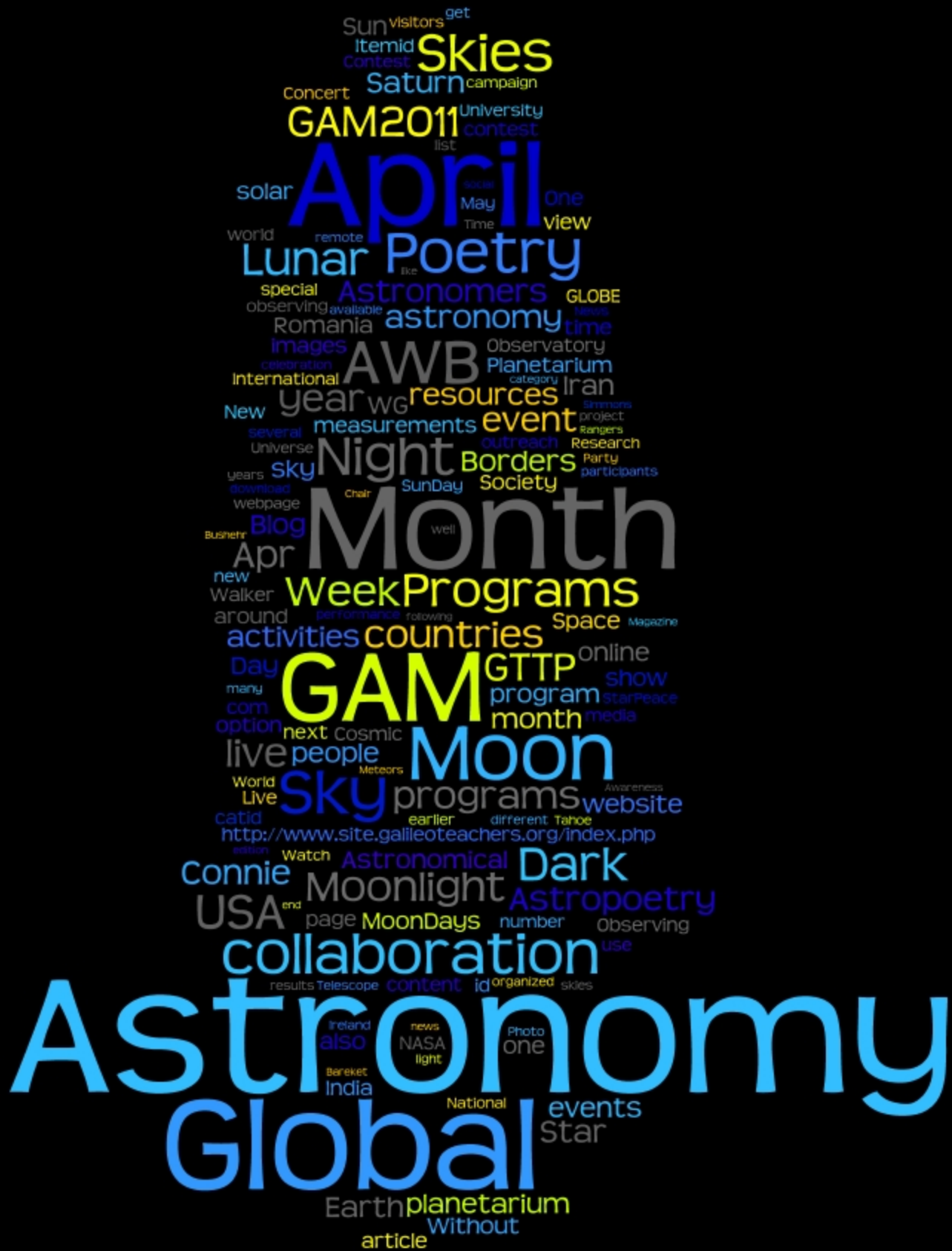
31. Astronomy without Barriers

Planetarium

32. Planetarians without Borders

Other

33. Cosmic Concert
34. Astropoetry Blog
35. 30 Nights of StarPeace (in collaboration with StarPeace)
36. Yuri's Night (in collaboration with YN)
37. Ask a European Space Agency Scientist (in collaboration with ESA)
38. NASA's MicroObservatory Astrophotography Contest (in collaboration with NASA)
39. Expedition to El Gran Telescopio Canarias in La Isla Bonita (in collaboration with SARM)
40. Poetry of the Starry Skies of Tahoe Astropoetry Contest (in collaboration with The Fleischmann Planetarium and Tahoe Star Tours)
41. Opticks (in collaboration with CAMRAS and Dwingeloo radio telescope)
42. NASA Voyage into Deep Space Live Webcast with Sonification (in collaboration with NASA Learning Environments and Research Network, Adler Planetarium and Astronomy Museum, Design Rhythmics Sonification Research Lab and Bareket observatory)



Credits

Editors: Mike Simmons, Thilina Heenatigala and Robert Eklund.
 Content: GAM2011 WG

Global Astronomy Month:
<http://www.gam-awb.org>

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