

ArAS News

NEWSLETTER

ARMENIAN ASTRONOMICAL SOCIETY (A r A S)



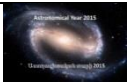





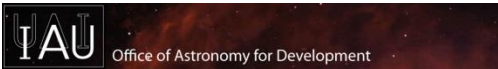






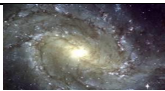
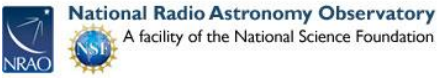





No. 88 (December 31, 2015)

Merry Christmas and Happy New Year!!!

Editor: Sona FARMANYAN

ArAS Newsletter online at: <http://www.aras.am/ArasNews/arasnews.html>

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Summary of Astronomical Year 2015

January

- **Proceedings of Armenian-Georgian Colloquium** dedicated to Ludwik Mirzoyan's 90th anniversary were published. Editors: Haik Harutyunian, Norair Melikian, Elena Nikoghosyan. 18 papers by BAO researchers are included in the Proceedings
- Research groups headed by Levon Aramyan and Tigran Movsessian were awarded **Armenian National Science and Educational Fund (ANSEF) 2015 grants**
- 25-28.01.2015: Areg Mickaelian participated with an invited talk in the **Workshop “Galaxies: inside and out”** held in Tehran (Iran)
- Sona Farmanyan was appointed **ArAS electronic newsletter (ArASNews) Editor**
- 18.01.2015: Smbat Balayan's 50th anniversary

February

- 04-06.02.2015: Areg Mickaelian participated with a talk in **European Astronomical Society and Affiliated Societies joint meeting** held in Rolle (Switzerland)
- 13.02.2015: Haik Harutyunian participated in **International Centre for Relativistic Astrophysics Network (ICRANet) Board of Directors meeting** held in Rome (Italy)
- **Kamo Gigoyan, Tigran Magakian, Areg Mickaelian, Tigran Movsessian and Artashes Petrosian** from BAO, **Aram Saharian** and **Davit Sedrakian** from YSU, **Vahagn Gurzadyan** from Alikhanian National Laboratory were included in **RA SCS 100 most productive scientists list**
- **NASA “Dawn” space mission** reached the largest asteroid of the Solar System – Ceres. “Dawn” several months explored Ceres and for the first time sent to Earth photos obtained from the neighborhood of the dwarf planet
- **A section “Archaeoastronomy and Astronomy in Culture”** was introduced in ArAS Newsletter

March

- BAO participated in **Young Scientists Support Program Report-Exposition**, where young scientists presented the results of 2012-2014 activities
- 31.03.2015: **Final Phase of the School Republican Astronomical Olympiad** at Yerevan Phys.-Math. School. Winners: Hrant Topchyan, Edgar Vardanyan (both from Yerevan Phys.-Math. School), Edward Khalafyan (“Quantum” College), Mikayel Mkrtchyan (Yerevan Phys.-Math. School), Ashot Matevosyan, Ashot Movsisyan (both from “Quantum”). Republican Jury Chair: Ashot Hakobian. Selection of participants for International Astronomical Olympiad
- Online publication at ArAS webpage of the **List of 46 Astronomical Books** published in 2000-2015

April

- 03.04.2015: **NAS RA Annual Meeting**, where NAS RA newly elected foreign members Varoujan Gorjian, Razmick Mirzoyan and Armen Sedrakian gave talks
- 07.04.2015: NAS RA newly elected foreign members Varoujan Gorjian and Razmick Mirzoyan gave seminars at BAO
- Release of “Astrofizika” webpage by ArAS on the occasion of the journal's 50th anniversary
- **BAO Plate Archive Project** (2015-2017) start, aimed at digitization of the whole archive 37,000 plates and their scientific usage
- Hayk Abrahamyan, Areg Mickaelian and Aram Knyazyan published **IRAS 345,162 Point and Faint IR sources joint catalog**, where their recent data are given

- 24.04.2015: Hubble Space Telescope's 25th anniversary
- 01.04.2015: Armen Sedrakyan's 50th anniversary
- 07.04.2015: ArAS member Bernhard Brandl's 50th anniversary
- 19.04.2015: Mihran Vardanyan's 30th anniversary
- 22.04.2015: Tigran Khanzadyan's 40th anniversary

May

- 25-30.05.2015: Tigran Magakian and Areg Mickaelian participated with talks in **Euro-Asian Astronomical Society (EAAS) XII Meeting**. Areg Mickaelian presented a plenary talk and at the General Meeting was elected EAAS Vice-Chair
- ArAS and Junior Astronomers Club participated in International Astronomical Union (IAU) extrasolar planets naming contest, where they proposed Armenian names of the planets
- 20.05.2015: Rafik Vardanian's 80th anniversary (1935-2000)

June

- 01-05.06.2015: Areg Mickaelian participated with a talk in the meeting "*Galaxies of Many Colors*" held in Marstrand (Sweden)
- 10.06.2015: Armenia in name of BAO was recognized by International Astronomical Union (IAU) **South-West Asian Regional Astronomical Centre**
- 11.06.2015: A workshop "*Perspectives of Scientific Tourism in Armenia*" was held at NAS RA Presidium
- 22-26.06.2015: **European Astronomical Society Annual Meeting** (EWASS-2015, La Laguna, Tenerife, Canary Islands, Spain): Areg Mickaelian from Armenia, Garik Israelian and Avet Harutyunyan from Spain and Vahagn Harutyunyan from Italy participated
- **Isaac Newton Institute (INI) Armenian Branch** foundation 15th anniversary
- **Gruber Prize 2015 in the field of Cosmology Winners** were announced: John Carlstrom, Jeremiah Ostriker and Lyman Page *for their contribution in the study of the Universe in large scales*
- 12.06.2015: Gurgen Paronyan's 30th anniversary
- 17.06.2015: Ararat Yeghikian's 60th anniversary
- 24.06.2015: Sir Fred Hoyle's 100th anniversary (1915-2001, UK)
- 28.06.2015: Grigor Brutian's 60th anniversary

July

- **Armenian Virtual Observatory (ArVO)** 10th anniversary
- **Areg Mickaelian** and **Tigran Movsessian** were appointed **BAO Deputy Directors** (for International Affairs and for Observing Facilities, respectively)
- **Proceedings of the meeting "*Relation of Astronomy to Other Sciences, Culture and Society*"** were published by NAS RA "*Gitutyun*" Publishing House. Editors: Haik Harutyunian, Areg Mickaelian, Sona Farmanyan: 19 papers by BAO researchers and 27 other papers are included in the Proceedings
- 14.07.2015: **NASA "New Horizons" space mission** after 9.5 years of travel reached Pluto. "New Horizons" for the first time sent to Earth photos obtained from the neighborhood of the dwarf planet and its moons. After passing Pluto, the spacecraft continued its way to Kuiper belt to examine a number of other icy bodies at the edge of the Solar System
- 17.07.2015: a **workshop on Archaeoastronomy and Astronomy in Culture** was held in Byurakan, where RA Vice-Minister of Culture Arev Samuelyan, NAS RA Division of Armenology and Social Sciences Academician-Secretary Yuri Suvaryan, directors of institutes of the Division and RA creativity unions leaders participated

- 26.07-04.08.2015: **9th International Olympiad of Astronomy and Astrophysics (IOAA)** in Indonesia, another success of Armenian pupils; 3 bronze medals: **Hrant Topchyan, Ara Mambreyan and Edgar Vardanyan** (all from Yerevan Phys.-Math. School). Team leaders: Marietta Gyulzadyan and Emilia Karapetyan
- 07.07.2015: ArAS member Anatol Cherepashchuk's 75th anniversary
- 10.07.2015: Zedig Mouradian's 85th anniversary

August

- 03-14.08.2015: **International Astronomical Union (IAU) XXIX General Assembly** (Honolulu, Hawaii, USA), where Areg Mickaelian and Sona Farmanyan from Armenia participated with talks
- An Agreement was signed between International Astronomical Union (IAU) and Armenia on recognition of **Armenia as South-West Asian Regional Astronomical Centre**
- Seven astronomers from BAO became **new IAU members**: Ruben Andreasyan, Marietta Gyulzadyan, Artur Hakobyan, Ashot Hakopian, Tigran Movsessian, Gagik Ter-Kazarian, Ararat Yeghikian
- 12.08.2015: Gabriel Ohanian's 60th anniversary
- 04.08.2015: BAO ensemble second generation buildings architect Sargis Gurzadyan (1929-2015) passed away

September

- 01-11.09.2015: Naira Azatyan and Hasmik Andreasyan participated in **European Southern Observatory (ESO), telescopes consortium OPTICON and International Astronomical Union (IAU) joint Summer School** held in Brno (Czech Republic)
- 15-18.09.2015: "**Astrofizika**" journals's 50th anniversary **Jubilee** was celebrated in Yerevan and Byurakan
- 18.09.2015: Viktor Ambartsumian's 107th anniversary, **Astronomy Day in Armenia**
- 18.09.2015: **V. Ambartsumian International Science Prize 2016 Call**
- 21-25.09.2015: Edward Khachikian, Haik Harutyunian, Artur Nikoghossian and Hovhannes Pikichian with talks participated in the **Meeting dedicated to Viktor Sobolev's 100th anniversary** held in Saint Petersburg (Russia)
- 21-25.09.2015: **Gurgen Paronyan** with a talk participated in **All-Russian Astrometric Conference (Pulkovo-2015)** held in Pulkovo Observatory (Russia)

October

- 02.10.2015: Cornell University (USA) Professor **Yervant Terzian** was awarded **NASA Lifetime Award**
- 05-08.10.2015: **Meeting "Astronomical Surveys and Big Data"** in Byurakan dedicated to Markarian Survey start 50th anniversary and Armenian Virtual Observatory (ArVO) foundation 10th anniversary
- 11.10.2015: **"First light" of BAO 1m Schmidt telescope** obtained after a long stop
- 13.10.2015: International Astronomical Union (IAU) **South-West Asian Regional Office of Astronomy for Development (SWA ROAD) Workshop and Inauguration Ceremony** in Byurakan. IAU SWA ROAD Director: Areg Mickaelian
- 14-16.10.2015: **Armenian-Iranian Astronomical Workshop** in Byurakan with participation of 12 Iranian astronomers and the Director of Georgian National Astronomical Observatory
- 15-23.10.2015: **XX International Astronomy Olympiad (IAO)** in Kazan (Russia), another success of Armenian pupils; 2 bronze medals: **Ara Mambreyan and Edgar Vardanyan** (both from Yerevan Phys.-Math. School). Team leaders: Marietta Gyulzadyan and Emilia Karapetyan
- 24-31.10.2015: **Ruben Andreasyan's and Hasmik Andreasyan's visit** to Chinese Xinjiang Observatory for discussion of collaboration
- 26-30.10.2015: **Second Byurakan Science Camp (2BSC)** with participation of 12-15 years old 20 pupils. Organizers: Areg Mickaelian and Sona Farmanyan

- **First extrasolar planet discovery 20th anniversary**
- 05.10.2015: ArAS member James Houck's 75th anniversary
- 15.10.2015: ArAS member Milcho Tsvetkov's 70th anniversary

November

- 05.11.2015: Areg Mickaelian's visit to European Southern Observatory (ESO) and Radik Martirosyan's online participation in **ESO-Armenian negotiations** with ESO Director General Tim de Zeeuw
- 09-15.11.2015: **European Society for Astronomy in Culture (SEAC) Annual Conference** on "*Astronomy in Past and Present Cultures*" was held in Rome (Italy); Sona Farmanyan's and Areg Mickaelian's participation with talks
- On the occasion of Yerevan Phys.-Math. School's 50th anniversary, for long-term management of astronomical group and for achievements at international Olympiads **Marietta Gyulzadyan was awarded RA Ministry of Education and Science Gold Medal**
- **Development of Scientific Tourism in Armenia project** was awarded IAU Office of Astronomy for Development grant
- 15.11.2015: **Markarian Survey's start 50th anniversary**
- 08.11.2015: Tigran Movsessian's 60th anniversary
- 09.11.2015: Alenush Terian's 95th anniversary (1920-2011)
- 10.11.2015: V. Ambartsumian International Science Prize 2012 Winner Igor Novikov's 80th anniversary
- 18.11.2015: Romela Shahbazian's 90th anniversary (1925-2012) and Renata Mnatsakanian's 85th anniversary
- 21.11.2015: Vahagn Gurzadyan's 60th anniversary
- 22.11.2015: Elza Hovhannessian's 80th anniversary (1935-1994)

December

- 02-04.12.2015: Haik Harutyunian and Areg Mickaelian participated in International Astronomical Union (IAU) **Arab World Regional Astronomical Centre** Inauguration Ceremony and regional workshop held in Amman (Jordan)
- 10-14.12.2015: Sona Farmanyan and Areg Mickaelian participated with talks in "*Astronomical Silk Road*" conferences held in Beijing and Urumqi (China)
- Areg Mickaelian was elected **Horizon 2020 COST BigSkyEarth project** Management Committee (MC) member
- **Calendar of Astronomical Events 2016** release on ArAS webpage
- ArAS founded "**Scientific Journalist of Armenia**" group's 5th anniversary
- **Physics and Astronomy Problems Book for school pupils** was published with Marietta Gyulzadyan's co-authorship
- 14.12.2015: **BAO 2015 Annual Summary Meeting**; Director Haik Harutyunian's report
- 11.12.2015: Research groups headed by **Artur Hakobyan, Ashot Hakopian** and **Areg Mickaelian** were awarded **RA SCS Thematic Funding** for 2015-2017
- 21.12.2015: Research project by Naira Azatyan, Knarik Khachatryan and Ani Vardanyan was awarded **BAO Department of Applied Astronomy grant 2016 for young astronomers**
- 21.12.2015: **ArAS Annual Prize for Young Astronomers 2015** (Yervant Terzian Prize) was awarded to **Artur Hakobyan**
- **Galileo Teachers Training Program (GTTP)** international certificate was awarded to **Hayk Abrahamyan**
- **Sona Farmanyan** was appointed International Astronomical Union (IAU) **Office for Astronomy Outreach (OAO) Armenian Coordinator**
- 30.12.2015: Research groups headed by **Hayk Abrahamyan** and **Areg Mickaelian** from BAO, **Aram Saharian** from YSU and **Narek Sahakyan** from ICRANet-Armenia were awarded **Armenian National Science and Educational Fund (ANSEF) 2016 grants**

Areg Mickaelian

BAO Annual Report Meeting 2015

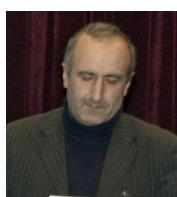


Like every year the annual meeting of the Byurakan astrophysical observatory took place in December. The summary report on the year activity was introduced by the director. He presented all the activities of the observatory in 2015, giving many examples of successful scientific and technical work. Some scientific results obtained during 2015 in the fields of stellar and extragalactic studies have been mentioned. An observatory internal project for digitization of astronomical plates has been started and many hundreds of plates have been scanned. Nevertheless, he emphasized that above all the year might be named an infrastructure restoration year. 1m Schmidt camera got the “second first light” a quarter of century after the last observations. 2.6m telescope is in principle ready for starting the regular observations. A new camera for this telescope is designed and constructed by the specialists of the Special astrophysical observatory in Russia. This was the first time since the independence of Armenia that the Byurakan observatory was able to pay for such a device. The Armenian-Russian observational station at the Saravand base has been working during the year. Besides the observational instruments renovation, a lot has been done for the maintenance of buildings, which actually have never been repaired. As an example the main laboratory building in Saravand was mentioned that has been under reconstruction during the year and was renovated mostly. Three garages, the big bus, windows of two buildings, the main “stellar” entrance of observatory have been mentioned as well. Two astronomical meetings held in October as well as the Astronomy Development office opening in Byurakan have been mentioned in the report as very important events. The damage caused by the storm in November was highlighted in the report as well. It was mentioned that the damaged roofs have been repaired very operatively and the related works are going on.

BAO Director Haik Harutyunian

SCS Thematic Grants 2015-2017

On December 11, the State Committee for Science of Ministry of Education and Science of the Republic of Armenia released the results of scientific examination of competition on contract (thematic) funding of scientific and technological activities. According to the results of the contest, 153 research programs were recommended for funding. 29 of funded proposals are from the field of Astronomy and Physics. We are happy to list the three astronomy related research groups from BAO and two from other institutions that are awarded thematic funding for 2015-2017.



Ashot AKOPIAN (Project Leader)

Project Title: *Study of superstrong flares of Solar type stars, their contribution in formation of composite organic molecules in neighboring interstellar clouds and protoplanets*

Team Members: Ararat Yeghikian, Anahit Samsonyan



Artur HAKOBYAN (Project Leader)

Project Title: *Distribution of Supernovae observed in galaxies and its numerical modeling*

Team Members: Levon Aramyan, Lilit Barkhudaryan, Arpine Karapetyan



Areg MICKAELIAN (Project Leader)

Project Title: *Spectral and multiwavelength studies of Markarian Galaxies*

Team Members: Marietta Gyulzadyan, Hayk Abrahamyan, Gurgun Paronyan

Narek SAHAKYAN (NAS RA ICRANet – Armenia Center)

Project Title: *Radio Galaxies Detected by Fermi LAT Telescope in X and Gamma Ray Ranges: Data Analysis and Modeling*

Aram SAHARIAN (Yerevan State University)

Project Title: *Quantum Phenomena in Gravitational Fields and their Cosmological Applications*

Find the full list of funded proposals at:

http://scs.am/uploaded/info/tema_2015%20Winners%20for%20www_1.pdf

ANSEF Grant Winners 2016



A.N.S.E.F.

The Armenian National Science & Education Fund



The ANSEF Review Board with the help of 24 referees has finished a three month long review of a total of 244 submitted proposals. The Board has identified the 32 proposals with the highest scores as the recipients of the ANSEF 2016 awards. We are happy to list the ANSEF 2016 winners from BAO:



Areg MICKAELIAN

Project Title: *Multiwavelength Studies of Blazar*

Team Members: Marietta Gyulzadyan, Hayk Abrahamyan, Gurgen Paronyan



Hayk ABRAHAMYAN

Project Title: *Radio properties of active galaxies*

Team Members: Areg Mickaelian, Gurgen Paronyan, Marietta Gyulzadyan

Narek SAHAKYAN (NAS RA ICRANet – Armenia Center)

Project Title: *High energy gamma-rays from radio galaxies*

Aram SAHARIAN (Yerevan State University)

Project Title: *Influence of topological defects on the electromagnetic vacuum fluctuations in de Sitter space-time*

Since 2001, in the field of astronomy and astrophysics, ANSEF has supported 44 projects (USD 5000 each; projects by 24 Principal Investigators and involving more than 100 scientists), including 36 projects from BAO, 7 from YSU and 1 from ICRANet. Like this time, 4 astronomical projects in the same year were supported in 2002 and 2011.

ANSEF Grant Webpage: <http://www.ansef.org/>

ArAS 2015 Prize for Young Astronomers



ArAS Annual Prize for Young Astronomers (Yervant Terzian Prize) 2015 was awarded to Artur Hakobyan (BAO, Armenia).



Artur A. HAKOBYAN was born on 25.01.1981 in Gavar, Armenia. He graduated from Yerevan State University (YSU) in 2004 with B.Sc. and in 2006 with M.Sc. In 2009 he took his Ph.D at Byurakan Astrophysical Observatory (BAO) on *“The Statistical Investigation of Supernovae and their Host Galaxies”*. He joined BAO in 2009 working with Dr. A. R. Petrosian and presently he is a Senior Research Associate. Dr. Hakobyan is ArAS member since 2009 and IAU member since 2015. His research interests include Supernovae, AGN, and

Starburst galaxies. In 2015 he showed rather high activity; he published 2 papers in A&A and 1 electronic catalogue in Vizier, as well as several preprints in astro-ph. and won Thematic Grant of State Committee for Science of Ministry of Education and Science of the Republic of Armenia.

The Prize was established in 2004 and is being sponsored by one of ArAS Co-Presidents *Prof. Yervant Terzian* (Cornell University, USA). Since 2009 the Prize is named after Yervant Terzian. Altogether, 12 young astronomers have been winners (in some years the Prize was shared between two astronomers), including Lusine Sargsyan, Vardan Adibekyan, Parandzem Sinamyan and Artur Hakobyan; each of them twice has become winner.

All ArAS Prize Winners

2015	Artur HAKOBYAN (BAO)
2014	Gurgen PARONYAN (BAO)
2013	Hayk ABRAHAMYAN (BAO) and Avet HARUTYUNYAN (IAC, Spain)
2012	Vardan ADIBEKYAN (CAUP, Portugal)
2011	Marine AVTANDILYAN (ASPU)
2010	Parandzem SINAMYAN (BAO)
2009	Lusine SARGSYAN (BAO)
2008	Vardan ADIBEKYAN (YSU) and Artur HAKOBYAN (BAO)
2007	Igor CHILINGARIAN (OBSPM, France)
2006	Lilit HOVHANNISYAN (BAO) and Parandzem SINAMYAN (BAO)
2005	Artak HARUTYUNYAN (BAO) and Elena HOVHANNESSIAN (BAO)
2004	Lusine SARGSYAN (BAO)

GTTP Certificate 2015 to Armenian Teacher



Hayk Abrahamyan was awarded Galileo Teacher Training Program (GTTP) certificate, thus becoming Galileo teacher of Armenia. It is supposed that Galileo teacher uses new methods in astronomy education and train other teachers sharing their knowledge.

Hayk Abrahamyan has graduated from YSU in 2009 and works at BAO, at present as a junior research associate. His scientific interests are on active galaxies, especially radio galaxies and radio properties of AGN. He is an ArAS member since 2010 and at BAO he is a member of the Armenian Virtual Observatory (ArVO) group and BAO Plate Archive Project. Since 2010, Hayk is a teacher of Astronomy and Physics at N97 High School in Yerevan, Armenia. He also gave lectures at the 4th Byurakan Summer School in 2013, the 1st Byurakan Science Camp in 2014 and 2nd Byurakan Science Camp in 2015. Besides, giving lectures he also initiated a number of tutorial during Science Camps.



Galileo Teachers in Armenia

2015	Hayk ABRAHAMYAN (BAO)
2014	Sergey NERSISYAN (Armenian State Pedagogical University)
2014	Ashot HAKOBYAN (BAO)
2013	Robert SARGSYAN (Basic College of Armenian State Agrarian University)
2012	Avetik GRIGORYAN (Armenian Youth Aero-Space Club, AYAS)
2011	Tigran NAZARYAN (BAO)
2011	Marietta GYULZADYAN (BAO and Yerevan Physics-Mathematics School)

OAD grant to Armenian project on Astro Tourism

The IAU-Office of Astronomy for Development's (OAD) fourth annual call for proposals has concluded and 18 projects have been selected to receive funding in 2016.



From Armenia three proposals were submitted and only one of them **“Development of Astro Tourism in South West Asia”** was selected for funding.

South West Asia has always been visible to the world due to its science and culture. The Astro tourism package will continue this tradition by grouping ancient and modern astronomical attractions of the region. Astro Tourism may significantly contribute to education by involving school pupils and students in cognitive tours to research organizations. It requires a tight collaboration between science and tourism, i. e. research institutions and individual astronomers on one hand, and travel agencies and experts in tourism on the other hand. It also concerns the organization of Astronomical conferences and other events, as in this case a number of astronomers travel to the given country combining science and tourism. Astronomy will also benefit from promoting Astro Tourism, both by its wider advertisement and financially.

The leader of the project is Areg Mickaelian, Director of IAU SWA ROAD, among the project team members are also Sona Farmanyan, Naira Nalbandyan and Gor Mikayelyan.

The call for proposals received a total of 124 applications between June and September 2015. The three Task Forces reviewed all the completed applications and submitted recommendations to the Steering Committee, which approved the final list of projects. The total amount that will be granted to the funded projects will be €111 704.

Task Force-1 Astronomy for Universities and Research

- Starlight in the University: Astrolab (Extended)
- Haiti All Sky Camera
- Uplifting the Mozambican astronomy community
- Gaza Ambassadors of Mars
- Latin American School of Observational Astronomy
- Radio Astronomy for Education
- The First Arab Winter School for Astrophysics

Task Force-2 Astronomy for Schools and Children

- An Astronomy Center in Bangladesh
- Solar System Play
- Astronomy for Literacy
- Touching Space – Accessible Astronomy
- Solving Problems and Cosmic Exploration (S.P.A.C.E)
- Astronomy for Earthquake affected Students

Task Force-3 Astronomy for the Public

- AstroBus-Ethiopia
- Astronomy with all Senses
- Development of Astro Tourism in South West Asia
- The Sky on a Bike
- Community Development Around Timor Observatory

IAU OAO Armenian Coordinator

In frame of IAU's Strategic Plan 2010-2020, after the establishment of the Office of Astronomy for Development (OAD) in Cape Town, South Africa and several Regional Offices of Astronomy for Development (ROADs), IAU has recently established an **Office for Astronomy Outreach** (OAO, <https://www.iau.org/public/>). It is funded by IAU, National Astronomical Observatory of Japan (NAOJ), and several other organizations.



OAO is IAU's hub for coordinating its public outreach activities around the world. The aim is to build networks to support and disseminate information to the amateur astronomy and public outreach communities, and to ultimately make it easier for the public to access information about our Universe. OAO is responsible for IAU's interaction with the general public – through the public email address iaupublic@iap.fr, and partly through IAU's Frequently Asked Questions and the popular Themes pages discussing various aspects of IAU's activities.

IAU OAO has organized the Public Vote **NameExoWorlds**, where 14 stars and 31 planets orbiting them were chosen for naming by astronomical organizations and the public. The results are available at <http://www.iau.org/news/pressreleases/detail/iau1514/>.

Sze-leung Cheung (National Astronomical Observatory of Japan) has been appointed IAU OAO International Outreach Coordinator. Similarly, National Outreach Coordinators are being appointed in countries where OAO activities are being accomplished.

Sona V. Farmanyan, IAU South West Asian (SWA) ROAD Task Force 3 (Astronomy for the Public) Program Coordinator has been appointed as IAU OAO Armenian Coordinator.

Sona Farmanyan is a PhD student working on Cultural Astronomy issues, including astronomical mythology, astronomy in literature and other fields of culture, astronomical terminology, etc. She is the Editor of ArAS Newsletter ("ArASNews"), Program Coordinator of "Viktor A. Ambartsumian's Descendants" Educational Charitable Foundation, she also works at Armenian National Academy of Sciences as Executive Secretary of V. Ambartsumian International Science Prize International Steering Committee. Sona also works as science journalist at 168zham.am. She has participated and given a number of talks at international meetings (including IAU General Assembly XXIX in Honolulu, Hawaii, USA, European Society for Astronomy in Culture (SEAC) Annual Conference in Rome, Italy, etc.), and she has a number of related publications. Sona was one of the Editors of the Proceedings of the meeting "Relation of Astronomy to Other Sciences, Culture and Society" held in 2014 in Byurakan, Armenia. She has been the coordinator and has organized a number of meetings in Byurakan, as well as she has initiated and accomplished two Byurakan Science Camps (BSC) in 2014 and 2015. She initiated Astrotourism project, which was recently awarded IAU OAD grant. Sona is a member of ArAS, IAU Division C (Education, Outreach and Heritage), IAU Working Group on Archaeoastronomy and Astronomy in Culture (AAC) and SEAC.

We wish Sona success in OAO activities and many new initiatives and accomplishments.

Director of IAU SWA ROAD Areg Mickaelian

INAUGURATION OF THE IAU ARAB REGIONAL OFFICE AND LANGUAGE EXPERTISE CENTER

The Arab Regional Office and Arabic Language Expertise Center was officially joined the IAU-Office of Astronomy for Development (OAD) network. The inauguration was held in Amman, Jordan, on December 2-3, 2015.



The inauguration was attended by the IAU General Secretary (Piero Benvenuti), Director of the OAD (Kevin Govender), Astronomy for Development IAU Strategic Plan 2010-2020 Coordinator George Miley, Director of Byurakan Astrophysical Observatory Haik Harutyunian, and IAU SWA ROAD Director Areg Mickaelian. Awni Al-Khasawneh, the General Secretary of Arab Union for Astronomy and Space Sciences (AUASS), and the General Director of the Royal Jordanian Geographic Centre (RJGC), was delivered the welcome address. Professor Hamid Al-Naimiy, President of the AUASS and Chancellor of the University of Sharjah, was read a statement and Professor Dia Eddin Arafa, President of Al al-bayt University, was given the opening address. The meeting had individual sessions focusing on Astronomy-for-Development, astronomical projects and capacity building in the Arab world, in addition to a round table discussion. A meeting of the Regional Office Steering Committee was also convened during this time.

The Arab Regional Office (Arab-ROAD) and Arabic Language Expertise Center (Arabic-LOAD) was hosted by the Arab Union for Astronomy and Space Sciences (AUASS) which was located at the Royal Jordanian Geographical Centre (RJGC) in Amman, Jordan. In addition the RJGC hosted the Regional Centre for Space Science and Technology Education which was affiliated to the United Nations Office for Outer Space Affairs (UNOOSA).

ROADs and LOADs are offices based around the world with similar objectives as the OAD but with regional focus. “Regions” could be geographical (neighboring countries) or cultural (e.g. shared language and culture globally). The combined Arab-ROAD/Arabic-LOAD is one of nine regional offices, with others located in Armenia, China, Colombia, Ethiopia, Nigeria, Portugal, Thailand and Zambia.

SILK ROAD CONFERENCES IN CHINA

The “Silk Road” is the most well-known ancient trade route that linked China with other countries. It has played important role in communication and cooperation between east and west civilizations. Through this passageway, ancient China, India, Persia, Arabia, Greece, Roman and many other civilizations met, communicated, integrated and formed a unique phenomenon of the Silk Road culture.

The Silk Roads symbolize communication between civilizations and interaction of ideas and cultures across the world. The legacy of the Silk Roads is particularly relevant in our age of globalization, when people of many different cultures, regions and languages are in close contact more than ever before. While science and technology play a dominant role in our modern society, the humanities provide understanding of cultural diversities of our world that will help promote communication and collaboration across cultures. It is necessary to break off the rigid boundaries that often keep our disciplines apart from each other, and to open them to the plurality of world cultures.



The International Conference on Science and Civilization on the Silk Roads (ICSCSR) was held on December 10-11, 2015 in China, Beijing. The conference had its twofold goals: to bring science and humanities together; and to bring people together in order to foster a mutual understanding of the diverse and often inter-related cultures. The first conference will host 60 distinguished scholars from around the world, including countries along the Silk Roads. The Conference will be a local and thematic preparatory meeting for the 1st World Conference on Humanities (Liege, Belgium, August 2017).

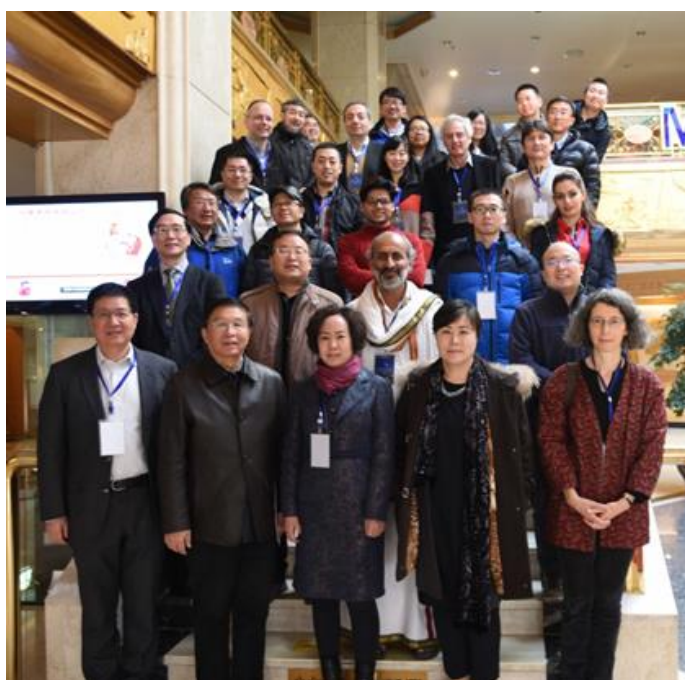
Themes

- The Astronomical “Silk Road”: Astronomy across Eurasia
- Literature, Art, Agriculture and Cartography
- Science and Religion
- Ways of Knowing: Scientific Reasoning in Ancient Civilizations
- Archaeology and Anthropology

Scientific Organizing Committee (SOC)

BENVENUTI, Piero (Italy)
 CHAO, Gejin (China)(**Chair**)
 CORMACK, Lesley (Canada)
 FUNG, Kam-Wing (Hong Kong, China)
 HALLEUX, Robert (Belgium)
 JAMI, Catherine (France)
 KALLINEN, Majia (Finland)
 LEE, Eun Hee (Korea)
 LIU, Dun (China)
 MICKAELIAN, Areg M. (Armenia)

NICOLAIDIS, Efthymios(Greece)
 OOSTERBEEK, Luiz (Portugal)
 OSBORNE, Michael (USA)
 RAMASUBRAMANIAN, Krishnamurthi (India)
 SAMASSEKOU, Adama (Mali)
 SHI, Yunli (China)
 SUN, Xiaochun (China)
 TOGAN, Isenbike (Turkey)
 WANG Siming (China)
 ZHANG, Daqing (China)



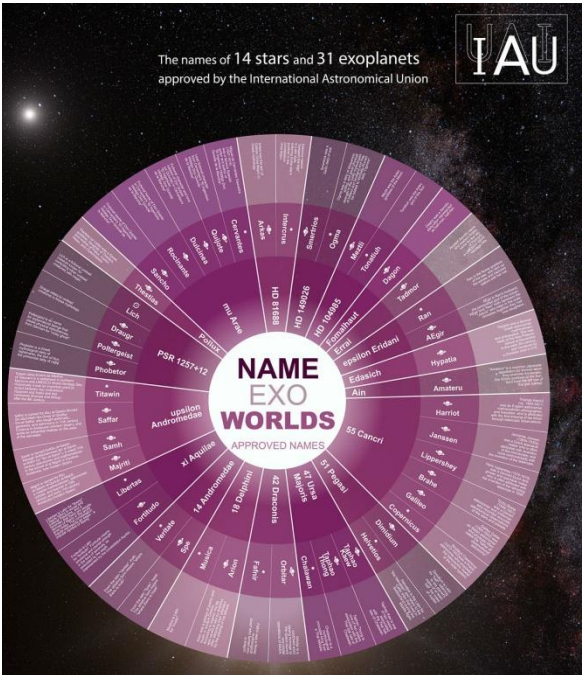
Another Silk Road meeting entitled **“Astronomical Silk Road: International Conference on Astronomy and Archaeoastronomy in China and Central Asia”** was held on December 13-16, 2015 in China, Urumqi. The conference was aimed to promote research on astronomical exchange between civilizations on the Silk Road. The topics of the conference included: archaeoastronomy, star charts, instruments and observatories, cultural astronomy in China, Central Asia and West, etc.

Dr. Areg Mickaelian and PhD student **Sona Farmanyan** were Armenian representatives at both of the meetings. They had contributions in both of the meetings. At Beijing meeting Dr. Mickaelian had a review

talk on **“History of Astronomy in Armenia and its Traces in the Cultural Heritage”** and in Urumqi he contributed on **“Astronomy in the Middle East and IAU South West Asian ROAD”**. S. Farmanyan had two talks: **“Earth and Sun in Ancient Armenia and its Impact on the World Cultures”** (Beijing) and **“Moon and its Myths on the Silk Road”** (Urumqi).

Dr. Mickaelian also had a seminar entitled **“Active galaxies among X-ray, IR and radio sources”** at Kavli Institute for Astronomy and Astrophysics at Peking University.

IAU NameExoWorlds Results



The votes are in — the names of 19 ExoWorlds (14 stars and 31 exoplanets orbiting them) have been chosen by public vote in the NameExoWorlds contest, and accepted by the IAU. Reflecting the truly international interest in astronomy, over half a million votes from 182 countries and territories contributed to the new official designations of the alien worlds.

Although people have been naming celestial objects for millennia, the International Astronomical Union (IAU) is the authority responsible for assigning official names to celestial bodies. The NameExoWorlds contest provided the first opportunity for the public to name exoplanets, and their stars. The winning names are to be used freely in parallel with the existing scientific nomenclature, with due credit to the clubs or organizations that proposed them.

With voting concluding on 31 October 2015, a total of 573 242 votes from the public have contributed to the naming of 31 exoplanets and 14 host stars. Proposers of the

winning names are to be awarded a plaque commemorating their contribution to astronomy and they will be given the exciting opportunity to name a minor planet.

The public voted on the 247 proposed ExoWorld names submitted by a wide variety of astronomy organisations from 45 countries all over the world ([iau1511](#)) — these included amateur astronomy groups, schools, universities and planetariums. The successful entries were received from across the globe — four were received from North America (USA, Canada), one from Latin America and the Caribbean (Mexico), two from the Middle East & Africa (Morocco, Syria), six from Europe (France, Italy, Netherlands, Spain, Switzerland), and six from Asia-Pacific (Australia, Japan, Thailand).

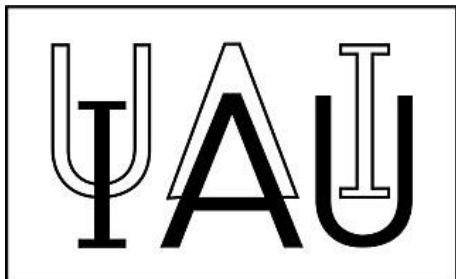
The [IAU Executive Committee Working Group on the Public Naming of Planets and Planetary Satellites](#) validated all the individual cases of the winning names from the vote, as stipulated in the [guidelines](#), and made appropriate modifications to the original proposals where necessary, in full agreement with the proposers.

However, after extensive deliberation, the Committee decided to annul the vote for one particular ExoWorld — tau Boötis — as the winning name was judged not to conform to the IAU rules for naming exoplanets. To this end, the IAU will organize a new contest to decide the name of tau Boötis in the future.

The newly adopted names take the form of different mythological figures from a wide variety of cultures from across history, as well as famous scientists, fictional characters, ancient cities and words selected from bygone languages:

The complete list of the results, including vote counts, proposers, and citations is published on the IAU NameExoWorlds website (<http://nameexoworlds.iau.org/>).

IAU ENCOURAGES ASTRONOMY WITHOUT BORDERS



In light of the recent tragic events around the world, several countries are increasing their security measures and enforcing restrictive immigration procedures. These restrictions will tighten visa-free travel and, in some cases, affect the issue of entrance visas. The International Astronomical Union ensures its members of its full support during this time so that the freedom of movement of scientists is minimally affected by these new measures.

Whereas the International Astronomical Union does not want to influence the political decisions of any country in terms of its security policy, it is concerned about the potential adverse consequences of these restrictions in terms of the mobility and circulation of its members.

Triggered by these recent measures, the IAU wishes to encourage its members not to refrain from their planned participation in international activities, no matter how inconvenient visa and immigration procedures may now become.

If you encounter any serious difficulties in carrying out travelling for scientific purposes, please contact Piero Benvenuti, IAU General Secretary (iau-general.secretary@iap.fr), and the Union will do everything in its power to try to overcome the hurdles. Special attention will be given for IAU Symposia, Regional Meetings and International Schools for Young Astronomers that take place in countries particularly affected by the restrictive immigration measures.

The IAU would like to strongly reaffirm its adherence to the ICSU Principle of Universality of Science, which “requires freedom of movement, association, expression and communication for scientists... and opposes discrimination based on such factors as ethnic origin, religion, citizenship, language, political or other opinion.”

The IAU believes that astronomy, the oldest science, can help in promoting peace and tolerance by reminding everybody that we are living under the same starry sky.

Contacts

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SPACE SCOOP ASTRONOMY NEWS PORTAL FOR KIDS



A brand-new Space Scoop astronomy website for kids is being launched on December in 22 different languages. Space Scoop provides exciting news about the latest astronomical discoveries in simple language and is accompanied by a stunning astronomical image. Space Scoop articles are delivered directly by world-class space agencies and institutes in the world, allowing children across the globe to read them without delay.

Space Scoop is inviting children across the world to explore up-to-date astronomy news bites. The goal of Space Scoop is to feed children's curiosity about the Universe, to share the excitement of the latest scientific discoveries and to inspire them to develop an interest in science and a passion for learning.

Directly from the Source

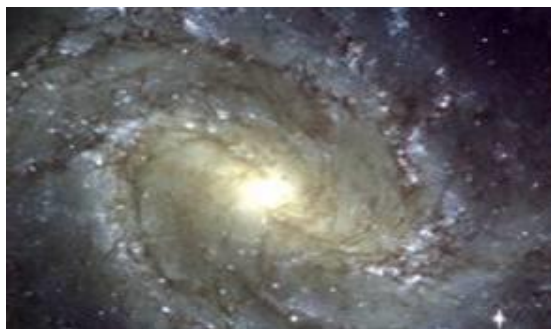
The Space Scoop website features vibrant, eye-catching visual designs alongside fun graphics, images and icons tailored to the younger audience. It allows children to access the latest science news from renowned astronomy and space research institutes, including the European Southern Observatory (ESO), NASA's Chandra X-Ray Observatory, the European Space Agency (ESA) and the National Astronomical Observatory of Japan (NAOJ). Space Scoop is a flagship project of the educational programmes Universe Awareness and Space Awareness.

22 Languages

Children and adults from all over the world can learn about the latest developments in astronomy and space sciences as they happen. The Space Scoop website is initially available in 22 languages: English, Dutch, German, Spanish, Polish, Czech, Farsi, French, Greek, Icelandic, Indonesian, Japanese, Korean, Norwegian, Portuguese, Romanian, Russian, Sinhalese, Slovenian, Swahili, Tamil and Turkish.

Visit [Space Scoop website](#)

RELEASE OF ASTROCOURIER JULY ISSUE



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Preface

Anniversaries:

80th Anniversary of I. D. Novikov

Prizes:

State Prize of Ukraine in Science and Technology

State Prize of Kazakhstan in Science and Technology

Announcements of 2016 Conferences:

INTERNATIONAL CONFERENCE "All-Wave Astronomy: Shklovsky 100" Moscow, Space Research Institute of RAS, 20-22 June 2016.

Circulation to the participants of the 33rd conference "Actual Problems of Extragalactic Astronomy" in Pushchino, Russia.

X SERBIAN-BULGARIAN ASTRONOMICAL CONFERENCE

May 30 – June 3, 2016, Belgrade, Serbia

Review of Conferences and Schools in 2015:

5th Anniversary of International Gamow Conference and 15th Gamow School.
"Evolution" supports all living creatures.

Astrocourier Newsletter is available in the following
link: <http://www.sai.msu.ru/EAAS/rus/astrocourier/301115.htm>

RELEASE OF NRAO NEWSLETTER



Read in this issue:

Upcoming Events

- Next Generation Very Large Array Workshop
- U.S. Virtual Observatory Alliance Annual Meeting
- NRAO Town Hall at Jan 2016 AAS Meeting
- ALMA Data Reduction Party
- AAAS 2016: Planet Formation with Radio Eyes
- 5th VLA Data Reduction Workshop
- Molecular Gas in Galactic Environments

Next Generation VLA Workshop at the January AAS meeting

Telescope Time Allocation for Semester 2016A

Very Large Array Sky Survey

VLA Data Reduction Workshop

15th Synthesis Imaging Workshop

ALMA Program News

A W-band Focal Plane Phased Array Feed Receiver on the GBT

U.S. Virtual Observatory Alliance Annual Meeting at AAS

2016 NRAO Summer Student Research Programs

An NRAO Summer Student's Experience

AAS Kissimmee Poster Presentations by 2015 NRAO Summer Students

NRAO Newsletter is available in the following link: <https://science.nrao.edu/enews/8.11/>

RELEASE IAU ASTRONOMY OUTREACH NEWSLETTER 2015 #18



The Astronomy Outreach Newsletter December 2015 is now online. It is produced by the IAU Office for Astronomy Outreach and brings the general public the latest information about events and other outreach-related activities around the globe — and beyond. Some highlights of this issue:

- Inauguration of the IAU-OAD offices
- Subaru challenge — gather Cosmic Light!
- International Year of Light 2015 Film Festival

Links

- [Outreach Newsletter 2015 #18 \(December 2015\)](#)
- [Past Outreach Newsletters](#)

Contacts

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RELEASE OF ESO OUTREACH COMMUNITY NEWSLETTER



Read in December issue of ESO Outreach Community Newsletter:

ESO ANNOUNCEMENTS

De Zeeuw–Van Dishoeck Graduation Prize Awarded to Sebastiaan Haffert

Science in School: Issue 34 now available

See latest ESO announcements on <http://www.eso.org/public/announcements/>

STARS@ESO

See latest Stars@ESO on <http://www.eso.org/public/events/starsateso/>

ESOCAST

ESOCast 79: 20 Years of Exoplanets

View more ESOCasts on <http://www.eso.org/public/videos/archive/category/esocast/>

ESO PRESS RELEASES

Aging Star's Weight Loss Secret Revealed - Giant star caught in the act of slimming down

The Birth of Monsters - VISTA pinpoints earliest giant galaxies

The Glowing Halo of a Zombie Star - VLT maps out remains of white dwarf's meal

More news on <http://www.eso.org/public/news/>, including translations into 18 different languages.

NEW ON ESO.ORG

New web page about GROND

New APOD: Centaurus A

ONGOING EVENTS

Café & Kosmos in Munich

UPCOMING EVENTS

See more on <http://www.eso.org/public/events/special-evt/>

UPCOMING EXHIBITIONS

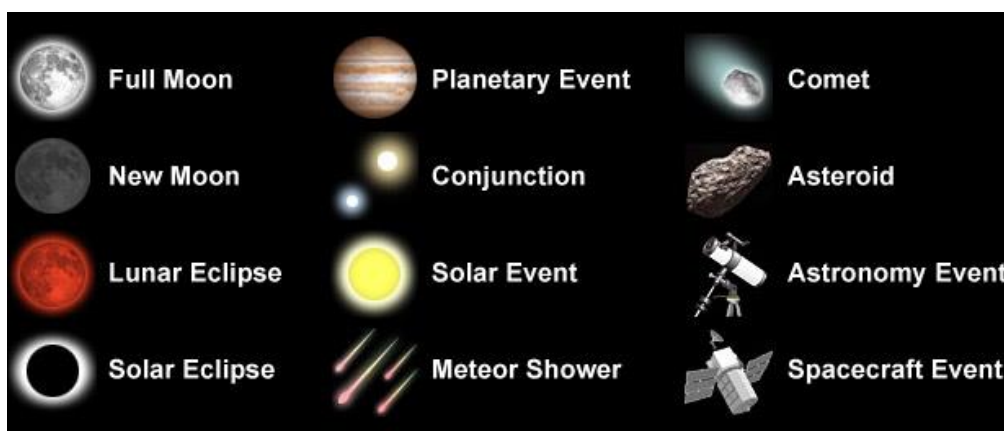
See more on <http://www.eso.org/public/events/exhibitions/>

ESO PICTURES OF THE WEEK

7 December 2015: A Galactic view from the Observation Deck

See more on <http://www.eso.org/public/images/potw/>

ASTRONOMICAL CALENDAR OF EVENTS 2016 AT ARAS WEBPAGE



“Calendar of Events 2016” is now available at ArAS website “Calendar of Events” menu. The Calendar includes all the most important astronomical events of 2016 known at the moment, including sky events and international and Armenian astronomy upcoming events. In the first group (Sky Events) Solar and Lunar Eclipses (altogether 4), all the main meteor showers (altogether 20, Lyrids in April, Eta Aquarids in May, Perseids in August, Orionids in October, Leonids in November and Geminids in December being the strongest ones), lunar phases, 14 conjunctions of the planets, oppositions of Jupiter, Mars, Saturn, Neptune and Uranus, 13 occultations of planets by the Moon are presented. Among the events of the second group, most important affairs of BAO and ArAS, international and local symposia, conferences, summer schools and astronomical Olympiads, as well as anniversaries of Armenian astronomers are given. Particularly, this year will be the award of Viktor Ambartsumian International Prize 2016, 7 IAU Meetings and European Week of Astronomy and Space Science (EWASS) will take place in July in Athens, Greece.



Astronomical Calendar of Events 2016 at ArAS Webpage

Monthly Calendar of Astronomical Events

JANUARY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1 Quadrantids meteor shower	2 Earth in perihelion Lunar crescent (last quarter)	3
4	5	6	7	8	9 Artur Nikoghossian's 75th anniversary Conjunction of Venus vs. Saturn	10 Arsen Kalloghlian's 85th anniversary New moon
11	12	13	14	15	16	17 Emilia Karapetian's 60th anniversary Lunar crescent
18	19	20	21	22	23	24 Full moon
25	26	27	28	29	30 ArAS Newsletter #89 release	31

LUNAR PHASES OF JANUARY

LUNAR PHASES JANUARY 2016

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				1 	2  Lunar crescent (last quarter)	3 
4 	5 	6 	7 	8 	9 	10  New Moon
11 	12 	13 	14 	15 	16 	17  Lunar crescent (first quarter)
18 	19 	20 	21 	22 	23 	24  Full Moon
25 	26 	27 	28 	29 	30 	31 