

ArAS News

NEWSLETTER

ARMENIAN ASTRONOMICAL SOCIETY (A r A S)

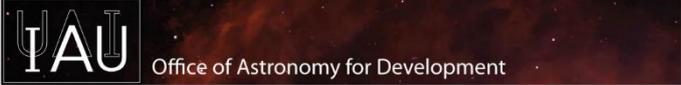
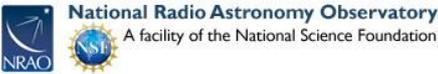
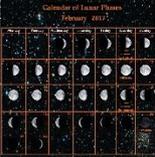


No. 101 (January 31, 2017)

Editor: Sona FARMANYAN

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

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EWASS 2017 First Announcement



The European Week of Astronomy and Space Science (EWASS, formerly JENAM) is the annual meeting of the European Astronomical Society (EAS). With more than 20 years of tradition, it has imposed itself as the largest conference for European astronomy. In addition to plenary sessions and the award of prestigious prizes, the conference hosts many symposia held in parallel, as well as special sessions and meetings. The EAS together with one of its affiliated societies, organizes the annual EWASS conference to enhance its links with national communities, to broaden connections between individual members and to promote European networks.

EAS is pleased to announce that the EWASS 2017 conference will be held in Prague from 26 to 30 June 2017.

This year, the Scientific Organizing Committee has selected a wide range of Symposia and Special Sessions that cover nearly all fields of Astronomy and Astrophysics including Planets, Astrometry, Stars & Spectroscopy, Star Formation, Feedback, Star Clusters, Galaxies & Galaxy Clusters, Strong Gravity & X-Rays & High Energy, Gravitational Waves, Cosmology as well as Software & Big Data and Instrumentation.



The programme of EWASS 2017 is very rich, including 16 Symposia and 22 Special Sessions, in addition to numerous Plenary Talks, Prize Awards, exhibitions, etc.

Important Dates

Date	Activity
10 Feb. 2017	Deadline for very early registration
8 March 2017	Abstract submission deadline
mid-April 2017	Participants informed on the status of their contributed talks and posters. Session programme on website as far as available
end-April 2017	Second announcement
28 April 2017	End of early bird registration
26 June 2017	End of regular registration
26–30 June 2017	Conference held at the Faculty of Law, Charles University following the programme

FIFTEEN YEARS OF THE ARMENIAN ASTRONOMICAL SOCIETY (ARAS)



ArAS official birthday is August 29, 2001. So, recently we celebrated its 15th anniversary. During its short life, ArAS has achieved a lot if compared to the statistical average of other national astronomical societies. We have enough large international membership (100 members), we have regular electronic newsletter ArASNews, annual meetings, ArAS Annual Prize for Young Astronomers, Summer Schools and Camps, ArAS School Lectures series, and many other activities.

The Armenian Astronomical Society (ArAS) was in fact created on 22 June 1999, when the first database of Armenian astronomers was collected, it was decided to create the society, By-Laws were developed and ArAS founding meeting was held. It is true that the Society was officially registered by the Armenian Ministry of Justice in two years, on 29 August 2001. Anyway, before that actions were taken to involve astronomers in the membership, identify and organize the future activities of ArAS. After the official registration, the first steps were the affiliation to the European Astronomical Society (EAS) in September 2001, the creation of ArAS website in 2002, preparation and distribution of electronic newsletters (“ArASNews”) since 2002 and establishment of the ArAS annual meetings since 2002. Since then, almost all events in Armenian astronomy are to a large extent connected with ArAS, and in the 2000s Armenian astronomy by its activeness has reached and in some ways exceeded the previous successes present during the Soviet Union years.

ArAS is an organization of exclusively professional astronomers (though few exceptions are allowed), and also aims at establishing close ties with the Armenian foreign astronomers, inviting them to join and cooperate with astronomers in Armenia. ArAS founding members were 16 astronomers of the Byurakan Astrophysical Observatory (BAO). ArAS currently has 100 members representing 49 institutions from 21 countries (<http://www.aras.am/Members/members.html>), including: Armenia – 50 (BAO – 29, YSU – 6 and others), USA – 15, Germany – 6, Russia – 5, France – 4, Mexico – 3, Italy and Spain – 2 (each), Bulgaria, Canada, Chile, Greece, Hungary, India, Ireland, Netherlands, Portugal, Romania, Switzerland, Thailand, and UK – 1 (each). Among the famous ArAS members there are Michel Mayor (Switzerland), Brent Tully (USA), Vahe Petrosian (USA), James Houck (USA), Daniel Weedman (USA), Yervant Terzian (USA), Igor Karachentsev (Russia), Zadig Mouradian (France), Daniel Kunth (France), Massimo Turatto (Italy) and many others. We have created for each member a personal webpage containing basic information on his personal and professional data. ArAS has 3 Co-Presidents: Haik Harutyunian, Areg Mickaelian (Acting President), and Yervant Terzian, ArAS Vice-President: Tigran Magakian, ArAS Scientific Secretary: Elena Nikoghosyan, Treasurer: Marietta Gyulzadyan, ArASNews Editor: Sona Farmanyan, and ArAS Webpage Administrator: Gor Mikayelyan.

Until recently ArAS released periodically electronic newsletters (**ArAS Newsletters, ArASNews**; <http://www.aras.am/ArasNews/arasnews.html>) 8 times in a year (periodicity of 1.5 month). Since 2015 they became monthly, 12 issues in a year. In total, including 2016, 100 issues have been prepared and released. In total, in all ArASNews, already 825 articles have been published with total 1310 pages. ArAS Newsletters give news, announcements, articles on Armenian astronomy and BAO, ArAS new members, international and local meetings, summer/winter schools and participation of Armenian astronomers in them, astronomical

education in Armenia, Armenian archaeoastronomy and astronomy in culture, anniversaries, scientific, scientific-popular, information materials, etc. A Reference List of ArASNews articles (<http://www.aras.am/ArasNews/arasnewsreference.html>) has been also created allowing easy access to all articles related to any subject.

ArAS webpage (<http://www.aras.am/>) was created in February 2002, at first to give the necessary information about ArAS, including ArAS objectives and forms of activities, list of ArAS members, annual meetings and other events, etc. In early 2009, in connection with the International Year of Astronomy (IYA-2009), ArAS webpage was fundamentally enriched and renewed and became a repository containing full information on Armenian astronomy. There is information about BAO history, achievements, current projects and international collaboration, received grants, all publications since 2000 have been installed, all meetings with individual pages, new sections have been opened for other scientific institutions in Armenia related to astronomy, 18 famous Armenian astronomers, database of 257 Armenian astronomers throughout the world, astronomical education, amateur astronomy, archaeoastronomy, etc. Without exaggeration, in terms of the amount of information, ArAS webpage is the richest one among all Armenian scientific organizations and one of the best in the world. We also published in ArAS website Calendars of Astronomical Events of 2014-2016.

Armenia is one of 73 member-states of the International Astronomical Union (IAU), as well as ArAS is recognized by IAU. Areg Mickaelian is the Secretary and the Acting President of the IAU National Committee for Astronomy (NCA) in Armenia. ArAS is one of EAS 25 affiliated societies, and by its activities it seconds only the most powerful countries in Europe: UK, Germany, France, Italy and some others. ArAS is also the official representative of the Euro-Asian Astronomical Society (EAAS) in Armenia. Areg Mickaelian is one of the EAAS Vice-Chairs, and Tigran Magakian is a member of EAAS Scientific-Technical Committee. Together with the Ministry of Education and Science, ArAS is also one of the official representatives of International Astronomical Olympiads (IAO) in Armenia. Armenia joined the international Galileo Teachers Training Program (GTTP) with its official representatives Areg Mickaelian (Ambassador in Armenia) and Marietta Gyulzadyan (Armenian Coordinator). Armenia is an associate member of the Sub-Regional European Astronomical Committee (SREAC) acting in Southeast Europe and an associate member of the International Planetary Data Alliance (IPDA). EAS Annual Meeting (European Week of Astronomy and Space Science, EWASS) was held in July 2015 in La Laguna (Tenerife, Canary Islands, Spain); ArAS Acting President Areg Mickaelian took part from Armenia.

ArAS has 5 kinds of awards given at ArAS webpage (<http://www.aras.am/Prize/awards.htm>):

- ArAS Annual Prize for Young Astronomers (Yervant Terzian Prize)
- ArAS/BAO Awards (2009+)
- ArAS Certificates
- ArAS/OxArm (Oxford Armenian Society) Awards for scientific journalists
- Galileo Teachers Training Program (GTTP) Certificates

Since 2004, ArAS awards Annual Prize for Young Astronomers (since 2009 it was renamed to Yervant Terzian Prize). It is being awarded to the most active young astronomers (younger 35) taking into account all annual activities. The award is sponsored by ArAS Co-President *Prof.* Yervant Terzian. At present it totals USD 500, and it is being awarded with ArAS Certificate.

Since 2002, **ArAS holds regular annual meetings**, however some of them were associated or combined with other conferences and events, where ArAS acted as co-organizer. ArAS XIII annual meeting was unprecedented in its theme. It took place on 7-10 October 2014 in Byurakan and was called “*Relation of Astronomy to Other Sciences, Culture and Society*” (RASCS). In addition to astrophysical issues it included Philosophical Problems of Astronomy, Astrobiology, Astroinformatics, Astronautics, Archaeoastronomy, Astronomical Education, Amateur Astronomy, Scientific Tourism and other topics related to astronomy.

It brought together astronomers, philosophers, historians, archeologists, philologists, artists and representatives of other fields. ArAS dedicated a few small-scale events (one-day conferences or seminars) to the anniversaries of famous astronomers.

Year	No.	ArAS annual meeting description and other related conferences
2002	I	Scientific Sessions and Annual Report
2003	II	Scientific Sessions combined with Armenian-Georgian Colloquium
2004	III	Scientific Sessions and Annual Report
2005	IV	Scientific Sessions and Annual Report
2006	V	Scientific Sessions combined with BAO 60 th Anniversary Meeting
2007	VI	Scientific Sessions combined with 15 th EAS Annual Meeting (JENAM-2007)
2008	VII	Scientific Sessions combined with Ambartsumian's 100 th Anniversary Meeting
2009	VIII	Scientific Sessions related to IYA-2009 (incl. Astrobiology and Archaeoastronomy)
2010	IX	Scientific Sessions and Annual Report
2011	X	Scientific Sessions and Annual Report
2012	XI	Scientific Sessions combined with Anania Shirakatsi 1400 meeting
2013	XII	Annual Report and Summary of Astronomical Year 2013
2014	XIII	Scientific Sessions combined with RASCS meeting
2015	XIV	Scientific Sessions combined with Armenian-Iranian Astronomical Workshop
2016	XV	Annual Report and Summary of Astronomical Year 2016

Since 2006, ArAS and BAO organize regular **Byurakan International Summer Schools (BISS)**, once every two years. Since 2005, local summer schools for YSU Physics Department students are being organized to cause and increase interest to astronomy. They are the continuation of the initiative started in 1995. ArAS has also organized a Conference for Young Astronomers in 2011.

Year	Summer school name	Short
2005	1 st Byurakan Summer School for YSU PhysDep students	1BSS
2006	1 st Byurakan International Summer School	1BISS
2008	2 nd Byurakan International Summer School	2BISS
2009	2 nd Byurakan Summer School for YSU PhysDep students	2BSS
2010	3 rd Byurakan Intern. Summer School / IAU Intern. School for Young Astron.	3BISS/ISYA
2011	FSU countries Young Scientists Conference	FSU-YSC
2012	4 th Byurakan International Summer School	4BISS
2013	3 rd Byurakan Summer School for YSU PhysDep students / IAU S304 training	3BSS
2016	5 th Byurakan International Summer School	5BISS

Armenian young astronomers regularly attend several international schools and conferences: IAU International Schools for Young Astronomers (ISYA), European NEON/OPTICON schools, Vatican Observatory Summer Schools (VOSS), Virtual Observatory (VO) training schools, and a number of others. ArAS website holds a directory table of the most important regular international schools (http://www.aras.am/SS2010/ss_other_schools.htm) which helps young astronomers and students to follow and find their respective schools based on the level of the students, location, subject, etc.

Since 2014, on the initiative of Sona Farmanyan, ArAS also organizes Byurakan Science Camps (BSC) for school pupils aged 12-15. Fund for Armenian Relief (FAR) partially sponsors these camps. Already 3 such camps have been organized in 2014, 2015 and 2016.

Since 1996, **International Astronomical Olympiads (IAO)** and since 2007, **International Olympiads on Astronomy and Astrophysics (IAOO)** are being organized. Armenian pupils have regularly taken part in both of them and have achieved excellent results. In total, they have won 9 Gold, 5 Silver and 21 Bronze medals. Marietta Gyulzadyan has especially big contribution in the achievements of our team; she has been the team leader since 2006.

ArAS Co-President Yervant Terzian and some other American sponsors of Armenian origin, co-finance a program of **ArAS School Lectures**, which runs jointly with the Armenian Ministry of Education and Science (MES). The lecturers are professional astronomers and their visits leave vivid impression for the school children. Schools are also given astronomical materials (books, booklets, sky maps, calendars, etc.), connection is being established with gifted children. In 2012, 2013 and 2015, such a program was implemented in Armenia and Artsakh schools. The next one is planned for October 2016.

ArAS tries to contribute to the **astronomical education matters in Armenia**. Summer Schools, Science Camps and Olympiads are also in this field. Other activities include installation of various information on ArAS webpage, preparation and release of educational CD/DVDs (recently released “*Astronomy for schools*” and “*Astronomy for students*” DVDs, which are collections of astronomical textbooks, books, dictionaries, encyclopedias, articles, reports, photos, videos, software, etc.).

In November 2014, on the initiative of Sona Farmanyan ArAS founded Facebook group “*Junior Astronomer's Club*” (JAC). “*Viktor Ambartsumian's Descendants*” Educational Charitable Foundation was founded in August 2014. Yervant Terzian is the Chair of its Board of Trustees, Areg Mickaelian is its Coordinator, and Robert Sargsyan is the Director of the Foundation.

To coordinate issues related to **Archaeoastronomy**, an appropriate section was opened on ArAS webpage (<http://www.aras.am/Archaeoastronomy/astronomyancientarmenia.html>). These questions are currently given great importance in the world, in particular, they are in the focus of international organizations such as UNESCO (“*Astronomy and World Heritage*” project), IAU (Working Group “*Astronomy and World Heritage*”), International Council of Monuments and Sites (ICOMOS), Société Européenne pour l'Astronomie dans la culture (SEAC), “*Starlight*” initiative and others. In 2014, IAU created a new working group “*Archaeoastronomy and Astronomy in Culture*” (AAC). Already several related meetings have been organized in Armenia in 2011, 2012, 2014, 2015 and 2016. ArAS Newsletter now has a permanent section “*Archaeoastronomy and Astronomy in Culture*”. More serious attention should be paid to “*Astronomy and World Heritage*” program. In particular, it is planned to implement a global program on Archaeoastronomy and History of Astronomy, Astronomy in Culture, as well as global programs on Amateur Astronomy and Astronomy Education. Yet in deficient condition is the amateur astronomy; amateur telescopes, observational programs, amateur astronomers meetings, educational programs, and wider publicizing of astronomy are needed. Global programs are aimed at coordinating the whole area in Armenia. We intend to create new sections on ArAS webpage, namely Armenian duplicates of the “*Portal To The Universe*” (PTTU) and other webpages.

Areg Mickaelian

100 ISSUES of ArAS NEWSLETTERS



In December 2016, we released our jubilee **100th issue of the ArAS Newsletters “ArASNews”**. Given that it has taken great efforts and considerable time to write many articles, prepare materials and give most up-to-date information on the Armenian and world astronomy events, ArASNews 100 issues are an important occasion at least to celebrate with a short article and statistics on what we have done.

The screenshot shows the website for the Armenian Astronomical Society (ArAS). The main content area displays a reference list of newsletters from 2002 to 2016. The table lists the year, issue number, and dates for each issue. For example, in 2016, issues #98, #99, #100, and #101 are listed with their respective dates. The page also includes a search bar and a 'Subscribe' button.

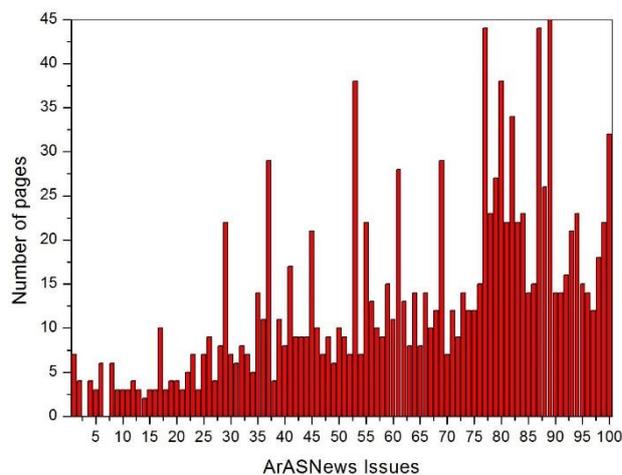
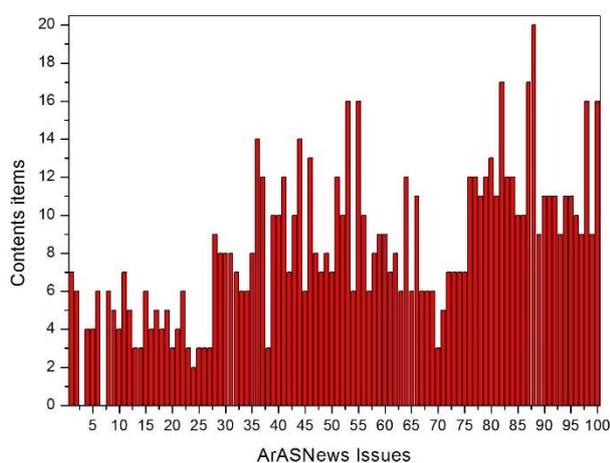
ArASNews webpage, where one can find the PDF files of any of its issues, as well as the Reference List of all published articles sorted thematically

ArAS Newsletters (ArASNews) are being published electronically since the beginning of 2002; there were 4 issues yearly in 2002-2008, then 8 issues yearly in 2009-2014, and now 12 issues yearly in 2015-2016; altogether **100 issues distributed during 15 years** (but #3-4 and #7-8 jointly, so far 98 newsletters). ArASNews is available at ArAS webpage at www.aras.am/ArasNews/arasnews.html, where one can find all released issues and a **Reference list of ArASNews articles** (www.aras.am/ArasNews/arasnewsreference.html) to make easy the search by any subject: International meetings and summer schools held in Armenia; Participation of Armenian astronomers in international meetings and summer schools; IYA-2009; ANSEF grants (announcements and awards); ArAS annual prize for young scientists (announcements and awards); Announcements, news, and other info; Astronomical Education Matters; Articles about Armenian astronomers and ArAS members; ArAS affairs; and Other articles.

Altogether during 15 years we have written and distributed 831 articles (content items) that make up 1321 pages in total, equivalent to a few big volumes of books. The table gives the statistics of ArASNews by their issues content items and number of pages during the first 7 years (with fewer releases), the next 6 years (with 8 releases yearly) and the last 2 years (with 12 releases yearly). So, during the last two years we have distributed in average some 12 articles (totalling in some 24-25 pages) in each of 12 issues that typically appear at the end of each month.

The figures give the dynamics of ArASNews content items and number of pages per issue during 2002-2016. The increase in 2009-2014 and then in 2015-2016 is obvious.

Years	Issues		Content Items		Pages	
	Total	##	Total	Average	Total	Average
2002-2008	26	1-28	125	4.8	139	5.3
2009-2014	48	29-76	416	8.7	597	12.4
2015-2016	24	77-100	290	12.1	585	24.4
2002-2016	98	All	831	8.5	1321	13.5



The dynamics of ArASNews contents items and number of pages per issue during 2002-2016

The editors of ArASNews have been:

- Tigran Magakian (2002-2004; issues #1-12)
- Lusine Sargsyan (2005; issues #13-16)
- Lilit Hovhannisyan (2006-2007; issues #17-24)
- Areg Mickaelian (2008-2014; issues #25-76)
- Sona Farmanyan (2015-2016; issues #77-100)

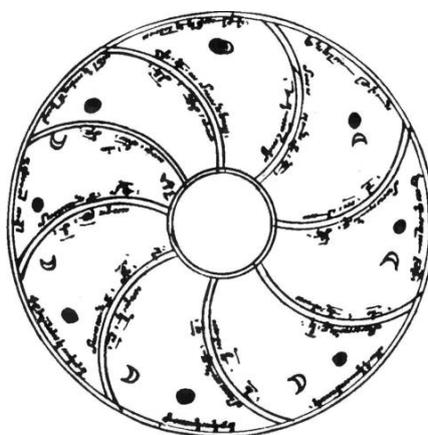
The mailing list consists of some 180 addresses; Armenian and many other astronomers, and some organizations interested in the Armenian astronomical news. The main topics of the articles that we publish are: information materials on ArAS, Byurakan Observatory and the Armenian astronomy in general, important international meetings and participation of the Armenian astronomers in them, announcements and reports on ArAS Annual Meetings, announcements and information on ArAS Annual Prize for young astronomers (Yervant Terzian Prize) and other awards and grants, articles on occasion of anniversaries of famous Armenian astronomers and ArAS members, acceptance of new ArAS members, achievements of the Armenian astronomers, astronomical education in Armenia, Armenian archaeoastronomy, as well as scientific and scientific-popular articles (reviews) and info materials on important studies.

Articles for the next ArASNews issues are welcome from all interested astronomers. Please submit your materials to Sona Farmanyan at sona.farmanyan@mail.ru or Areg Mickaelian at aregmick@yahoo.com any time and they will be included in the forthcoming issues. Articles must be in English.

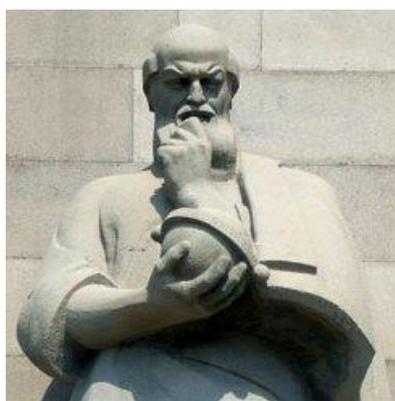
Sona Farmanyan, Areg Mickaelian

SEMINAR DEDICATED TO ANANIA SHIRAKATSI

With the initiative of Prof. Helmuth R. Malonek (Aveiro University, Portugal), a scientific seminar dedicated to the heritage of Anania Shirakatsi was organized at mathematics department of University of Aveiro on December 7, 2016. Prof. Malonek opened the seminar by providing a brief biographic information about Anania Shirakatsi and then Dr. Vardan Adibekyan (Institute of Astrophysics and Space Sciences, Porto, Portugal) in his talk tried to trace some moments in the development of Mathematics, Astronomy, and Astrophysics in Armenia from Shirakatsi until recent times.



Phases of the Moon



Anania Shirakatsi was the greatest Armenian scientist of the Middle Ages: philosopher, mathematician, astronomer, geographer, chronologist, he is considered to be the father of Astronomy in Armenia. He supported the spherical Earth hypothesis, suggested a correct interpretation of the Milky Way, and explained the Solar and Lunar eclipses. Most of the Armenian names used nowadays for the constellations and stars have their origin in Shirakatsi's works.

Among the attendees of the seminar was the president of the "Association of Portuguese-Armenian friendship" Vahe Mkhitarian, who was one of the initiators of this event.

Vardan Adibekyan

EAS AFFILIATED SOCIETIES MEETING IN SWITZERLAND



The European Astronomical Society's (EAS) Business meeting with the National Affiliated Societies took place on January 24-25, 2017 in the INTEGRAL Science Data Centre (ISDC), Versoix (near Geneva), Switzerland. This was the 6th such meeting; the first one was in 2008 in Leiden, Netherlands and the next 4 ones, in 2012-2015 in Rolle, Switzerland. EAS has a policy of activation of its contacts and collaboration with its 26 affiliated societies, as well as to work more intensely to increase the role of the Society in the European astronomy. The main goals of the meeting were to summarize the EAS and national societies' activities during the last two years and to plan the further affairs. The meeting was focused on the strategy of the EAS across the European continent.

The EAS Council, presidents and/or representatives of national astronomical societies, and representatives of other European organizations took part in the meeting. Among the participants, there were: EAS President Thierry Courvoisier (Switzerland), Vice-President and President-Elect Roger Davies (UK), EAS Secretary Serena Viti (UK), EAS Treasurer Johan Knapen (Spain), Councillors Sofia Feltzing (Sweden), Lex Kaper (Netherlands), Georges Meylan (Switzerland), Coralie Neiner (France) and Olga Sil'chenko (Russia), EAS Newsletter Editor Maarten Baes (Belgium) and EAS Web Administrator Marc Türlér (Switzerland). Representatives of ASTRONET project Ronald Stark (Netherlands) and Denis Mourard (France), IAU Strategic plan *Astronomy for Development* Georges Miley (Netherlands) and Pedro Russo (Netherlands), presidents and/or representatives of 12 national astronomical societies, altogether 30 scientists from 12 countries were present. ArAS Co-President Areg Mickaelian participated from Armenia.

A presentation was given by Jan Palouš (Czech Republic) on the *European Forum of Astronomical Communities in the New Member States* to be held during EWASS-2017 in Prague. *EAS Brussels strategy* (representation of EAS in the EU) was presented by Thierry Courvoisier. *EAS and ASTRONET coordination* was presented by Denis Mourard. The project of the *European Regional IAU office of Astronomy for Development (ROAD)* was presented by Pedro Russo (Areg Mickaelian also gave an overview of the IAU South West and Central Asian ROAD's establishment experience and current activities). *EWASS 2017 and 2018 matters* were presented by Lex Kaper. Talks on **the state of astronomy in different countries and the activities of national societies in 2015-2016** were presented by the representatives of the astronomical societies of Austria, Belgium, Czech Republic, Finland, France, Italy, Russia, Serbia, Spain, Switzerland, UK and the representative of the Northern European countries. Areg Mickaelian delivered a talk on **Increasing the visibility and the role of EAS in the European astronomy**. He gave full statistics of the European astronomy compared to the world astronomy and discussed the role of EAS in respect of the coordination of the European astronomy as a whole, regardless of the existence of such organizations as ESO, ESA, ASTRONET, OPTICON and others that have specific goals. He had prepared a table *European Astronomy in Numbers*, where

At present, EAS officially includes national astronomical societies of 26 countries; however, among the individual members there are scientists from many other European and other countries. ArAS became an EAS Affiliated Society in September 2001 and there are 10 individual astronomers from Armenia in EAS. ArAS together with EAS organized JENAM-2007 in Armenia, which was the largest ever held scientific meeting in Armenia.

Areg Mickaelian

ANSEF ANNOUNCES 2017 WINNERS



A.N.S.E.F.

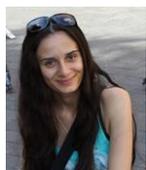
The ANSEF Review Board - with the help of 22 referees - has finished a three-month long review of a total of 206 submitted proposals. The Board has identified the 30 proposals with the highest scores as the recipients of the ANSEF 2017 awards. We are happy to list the ANSEF 2017 winners from BAO:



Dr. Artur HAKOBYAN

Project Title: The relations between the distribution of supernovae, stellar population and density waves in galaxies

Project Team: Arpi Karapetyan, Lilit Barkhudaryan, Levon Aramyan



Anahit SAMSONYAN

Project Title: Comparison of Far Infrared [CII] and [OIII] Emission Lines in Starbursts and AGN

Project Team: Gayane Konstandyan, Lusine Sargsyan

In addition, **Sona FARMANYAN** (NAS RA M. Abeghyan Institute of Literature) was awarded ANSEF grant 2017 for the project “*Study of Ancient and Modern Cosmology Using Armenian Manuscripts*”.

Here we give some statistics of the winners by areas and by institutions:

By Areas:

17 - Natural Sciences (Biology, Biochemistry, Biotechnology, etc.)

6 - Physics and Astrophysics

6 - Humanities

1 - Engineering

By Institutions:

17 - National Academy of Sciences of the Republic of Armenia (NAS RA)

8 - Yerevan State University (YSU)

1 - Alikhanyan National Laboratory (Yerevan Physics Institute)

1 - CANDLE Synchrotron Research Institute

1 - American University of Armenia (AUA)

1 - State Medical University

1 - Artsakh Scientific Center

In the field of Astronomy and Astrophysics, ANSEF has supported 47 projects (USD 5000 each; projects by 26 Principal Investigators involving more than 70 scientists), including 38 from NAS RA Byurakan Astrophysical Observatory (BAO), 7 from the Yerevan State University (YSU) and 1 from NAS RA Institute of Literature.

All ANSEF awards in Astronomy and Astrophysics are given at <http://www.aras.am/AnsefGrants/ansefgrants.html>

RELEASE OF IAU OAD YEARBOOK



Office of Astronomy for Development

The OAD has released its first Yearbook, an annual publication that reflects on the activities and accomplishments of the OAD and the global community during the year. The Yearbook also looks back at all the projects funded across the world and highlights of the year's activities. It also contains information on the OAD Annual Call for Proposals.

Below you can find the highlighted activities for October-December months:

- OAD Director Keynote Speech at ICRI
- Guide to Starting a Physics Student Society
- First Workshop on Astronomy for Accessibility and Inclusion
- Science Center Conference
- OAD Team in Cape Town

REGIONAL OFFICES - HIGHLIGHTS

- East African ROAD offered training on STEM subjects
- Portuguese ROAD now involves 29 institutions
- The South-East Asian ROAD hosts NARIT meeting
- South West and Central Asian ROAD held BAO-70 conference and International Summer School
- Southern African ROAD hosted a regional astronomy school
- West African ROAD is running dark skies studies in Nigeria

UPCOMING EVENTS

- Frontiers in Theoretical and Applied Physics (FTAPS 2017) <http://ar-as.org/ftaps2017/>
- 2nd NARIT International Astronomical Training Workshop (NIATW) <http://www.narit.or.th/en/index.php/niatw2017/niatw2017-ann>
- International School for Young Astronomers (ISYA) <http://www.eorcworkshop.com/isya-home>
- Fourth Middle-East and Africa Regional IAU Meeting (MEARIM IV) <http://www.eorcworkshop.com/mearim-iv-home>
- West African International Summer School for Young Astronomers <http://www.astrowestafrika.org/about>

Follow the link and find the latest news from the OAD:

<http://www.astro4dev.org/media/newsletters/>

RELEASE OF ASTROCURIER DECEMBER ISSUE



Preface to the readers

Overview of 2016 astronomical discoveries

Announcement of the Winners “Break of the Year” Award

Chronical of Events

The final annual meeting of ASTRO Board

Science Anniversaries

80th Anniversary of INASAN

445th Anniversary of Johannes Kepler

Results of Conferences

"Earth in the early stages of the solar planetary system"

Olympic Games and Tournaments sponsored by AstrO

Memorials

Memory of Mandel Oleg Yefimovich

Memory of Siderenkova Valery Nikitievich

Read the newsletter online at: <http://www.sai.msu.ru/EAAS/rus/astrocourier/index.html>

RELEASE OF NRAO NEWSLETTER



Upcoming Events

American Astronomical Society Meeting (*Jun 4 - 8, 2017 | Austin, TX*)

2017 Astrobiology Graduate Conference (*Jun 5 - 9, 2017 | Charlottesville, VA*)

Women in Astronomy IV: The Many Faces of Women Astronomers (*Jun 9 - 11, 2017 | Austin, TX*)

Developing the ngVLA Science Program Workshop (*Jun 26 - 29, 2017 | Socorro, NM*)

Recent Media Releases

Astronomers Find Seven Dwarf-Galaxy Groups, the Building Blocks of Massive Galaxies

Orion Explorer Lauches

Applications Accepted for 2017 Astronomy in Chile Educator Ambassadors Program

Image Release: ALMA Reveals Sun in New Light

Precise Location, Distance Provide Breakthrough in Study of Fast Radio Bursts

First Light for ALMA's Band 5

Milky-Way-Like Galaxies Seen in their Awkward Adolescent Years

VLA, ALMA Team Up to Give First Look at Birthplaces of Most Current Stars

Death of Former Director Kwok-Yung (Fred) Lo

Career Opportunities

ALMA Director

Director – Central Development Laboratory

ALMA – Head of Data Management Group

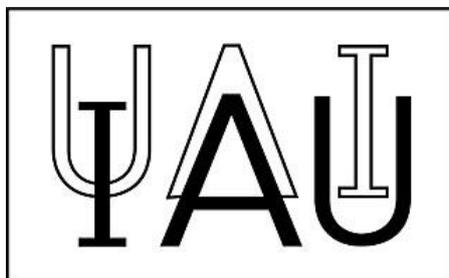


National Radio Astronomy Observatory



A facility of the National Science Foundation

RELEASE OF IAU ASTRONOMY OUTREACH NEWSLETTER 2017, January #2



0) From the Editors

1) Fourth Middle-East and Africa Regional IAU Meeting (MEARIM IV)

2) B7&C1 Inter-commission WG: Achieving sustainable development within a quality lighting framework

3) Physics Student Society Toolkit

4) National Outreach Contact (NOC) Corner: News from Vietnam

5) Global Science Opera announces 2017 theme: Moon Village

6) CEDIC, the Central European Deepsky imaging conference

7) CERN high-school summer camp

8) Starmus Festival 2017

9) Meetings & Global Events

Recently added

Important Dates

Upcoming

10) IAU Astronomy Outreach Newsletter in other languages

11) Contributions to IAU Outreach Newsletter



Calendar of Lunar Phases

February 2017

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

ArAS Membership Fees and Finances 2016



Some of ArAS members have asked to give ArAS financial a report, particularly the usage of ArAS fees. We have regularly reported this during ArAS Annual Meetings, however, we agree that ArASNews is providing more visibility for all ArAS members.

ArAS membership fees were established in 2001 and were applied since 2002. There was a suggestion to **differentiate the fees by countries**, given the typical level of income in Armenia, Western Europe, USA & Canada and Other countries. In addition, the junior members in each case pay half of the fee. The table gives the established fees in USD equivalents (also available at ArAS webpage).

Countries	Membership Fees (<i>in USD</i>)	
	Full members	Junior members (<i>30 years or younger</i>)
Armenia	10	5
Western Europe, USA & Canada	50	25
Other countries	30	15

ArAS membership gives a number of **benefits**. ArAS activities are focused on its members and they have advantage of participation in all of them:

- ArAS has created and maintains an up-to-date website providing society's general information, information on Meetings, Prizes, Grants, Summer/Winter Schools, Members, Publications, etc.
- ArAS maintains a database of its membership, available on the web, as well as a database of all Armenian astronomers
- ArAS publishes its monthly electronic newsletter ArASNews that is distributed to its members and other interested scientists and societies
- ArAS awards yearly prizes to young astronomers
- ArAS individual members participate to the election of ArAS Council, they may nominate candidates for the ArAS Annual Prize and other ArAS awards and have a right to vote at the Annual meetings
- ArAS holds yearly ArAS meetings. These meetings bring together the Armenian astronomical community, they include typically various scientific topics and organizational matters. ArAS members are granted discounts for participation in these meetings and other ArAS events
- ArAS publishes the proceedings of its meetings and some other books, and ArAS members have discounts on them (often ArAS provides these books free of charge to its members)
- ArAS provides free space for personal webpage for all members
- ArAS maintains close professional relationships with most of the European national astronomy societies, and gives possibility to exchange practice and develop collaboration
- ArAS members can participate in ArAS projects, such as ArAS School Lectures, etc.
- ArAS runs a number of educational and public outreach activities

However, the collection of membership fees became a hard problem and we understand that this is the case for almost all societies (some societies give significant advantages to paying members, such as waivers or discounts at meetings, publications, etc.). Since 2002 ArAS fees were collected extremely irregularly, though many times ArAS Council members and treasurers have asked the members to pay. Moreover, several times

we have made discounts or waivers, like asking to pay 2-years fees instead of the all missed years. In 2007, during the JENAM (Joint European and National Astronomical Meeting combined with ArAS VI Annual Meeting), we asked the Armenian members to pay the discounted JENAM participation fees and we counted this against the previous missed ArAS fees.

Recently, in November 2016, ArAS Council again discussed this issue and decided to strictly **collect membership fees for the last two years, 2015-2016** and forget debts for the previous years, otherwise revise the membership list and keep only the paying members. This initiative partially worked and we collected 2-years fees from 17 members in Byurakan (6 are junior ones) out of 100 ArAS members, totalling AMD 140,000, equivalent to USD 280 (we have collected AMD 5000 as an equivalent of USD 10, given that the exchange rate is 1 USD = 486 AMD). We also have written e-mails to members from other countries and a few of them have promised to make bank transfers to ArAS account.

Still, many of you haven't paid, so we encourage to do so asap. Here we remind **ArAS bank account details**:

Bank: Ardshinbank Armenia
 Account owner: Armenian Astronomical Society
 Bank Account Number (AMD account): 2474502254680000
 Bank Account Number (USD account): 2474502254680010
 SWIFT Code: ASHBAM22

To keep the proposed condition, we will publish the revised membership list with only the paying members in the next ArASNews issue.

Note, that there is also the **Honorary Member category**, which is for outstanding contribution to ArAS and which is free of membership fees. At present, we have only two such members, *Prof. Yervant Terzian* and *Prof. Radik Martirosyan*. In addition, in 2009, during the International Year of Astronomy (IYA-2009), after some discussions with other national astronomical societies, to increase mutual contacts and to give ArAS more international visibility, we have invited representatives of other countries tightly connected with the Armenian astronomy, so-called **Invited Members**, such as Ishtvan Jankovich (Hungary), Daniel Kunth (France), Magda Stavinschi (Romania), Milcho Tsvetkov (Bulgaria), Massimo Turatto (Italy), to become ArAS members for free.

On the other hand, ArAS has run a lot of activities and most of them require big finances. To give a short report, we list some of the main activities (in some cases with the typical expenses) that we have had during all these years.

- ArAS Annual Meetings 2002-2016 (including some very big conferences, such as JENAM-2007, RASCS in 2014 and others), typically USD 1000-1500 for each meeting
- Byurakan International Summer Schools (BISS) 2006-2016 (including ISYA-2010), typically USD 4000-6000 for each school (given that the students are supported by the organizers)
- Byurakan Summer Schools (BSS) for YSU students 2005-2013, typically USD 1000-1500 for each
- Byurakan Science Camps (BSC) 2014-2016, typically USD 2000-2500 for each
- ArAS Annual Prize for Young Astronomers (Yervant Terzian Prize) 2004-2016, at present USD 500
- Internet and e-mails contract (with web.am; domain and hosting), USD 60 annually
- ArAS Webpage since 2002, by our efforts for free
- ArAS Newsletter since 2002, by our efforts for free
- EAS Armenian members' fees payment in 2002-2011, typically EUR 70-100 annually
- IYA-2009 activities: BAO visits, promotional materials, etc., USD 4000
- Purchase of 100 Celestron FirstScope telescopes in frame of IYA-2009, many of which were given as gifts to Astronomical Olympiads winners, BSC active participants and others in 2010-2016;
- ArAS School Lectures 2012, 2013, 2014, 2016, typically USD 1200-1500 each

- Astronomical Olympiads; gifts from ArAS, typically books and promotional materials
- GTTP: training courses (EUR 500), certificates
- Scientific Journalism: press-releases, meetings, seminars, prizes
- Astronomical TV program for a few years (initiated by Areg Mickaelian and Lusine Sargsyan)
- Publication activities: conference proceedings, booklets, promotional materials
- Database of Armenian astronomers, by our efforts for free
- Office expenses, typically USD 100-150 annually
- Scientific Tourism activities (IAU OAD Astro Tourism grant 2016, EUR 6000)
- Archaeoastronomy and Astronomy in Culture (AAC): meetings 2014 and 2016 and other activities
- Relation to amateur astronomers, by our efforts for free
- Yearly Calendars of Astronomical Events, by our efforts for free
- Celebrations (seminars, etc.): Markarian, Gurzadyan, Terzian, Arakelian, Pismis, Ivanova, and others anniversaries
- Public Outreach activities, mostly by our efforts for free
- Production of astronomical souvenirs and other promotional materials

Given this list, we indeed understand that for most of the activities ArAS Council puts huge efforts to raise funds from different sources and ArAS members' contribution is rather welcome and required to support all these initiatives.

We also give here the use of the fees collected in 2016, some kind of financial report.

Expenses Items	in AMD	in USD
Internet domain and hosting (for 2 years, 2016-2017)	55,000	110
Byurakan Science Camp (partial contribution)	38,000	76
Publication of promotional materials (ArAS pens, etc.)	24,000	48
Production of <i>Astronomy for Schools</i> DVDs	36,000	72
Office expenses	12,000	24
Postal expenses	11,000	22
Fiscal office expenses	20,000	40
Bank account service expenses	6,000	12
Total	202,000	404

Note, that part of the expenses are done in advance and further payment of fees will reimburse these expenses.

We would also like to thank the ArAS sponsors that have greatly contributed in ArAS projects and events during all these years:

- *Prof. Yervant Terzian*, for supporting ArAS Annual Prize for Young Astronomers since its beginning and ArAS School Lectures in 2012-2016 (several other sponsors also contributed on his initiative)
- *Prof. Radik Martirosyan*, for supporting ArAS meetings and events at the Presidium of NAS RA
- Fund for Armenian Relief (FAR), for partial support of BSC in 2014-2016
- *Prof. Daniel Weedman*, for partial support of 1BISS in 2006
- *Mr. David Nelson* (Jinishyan foundation), for partial support of ArAS events
- *Prof. Michel Mayor*, *Prof. Garik Israelian*, *Prof. Nuno Santos* for partial support of 3BISS/ISYA-2010
- *Dr. Mihran Vardanyan*, for support of ArAS/OxArm Prizes in 2011
- *Dr. Marietta Gyulzadyan*, for her continuous efforts in organization of many educational events
- *Dr. Lusine Sargsyan*, for organization and release of ArAS TV programmes
- *Gor Mikayelyan*, for continuous support in creation and maintaining ArAS webpage since 2009
- *Sona Farmanyanyan*, for her efforts in preparation and circulation of ArAS Newsletter and organization of many other events

At last but not least, we thank all ArAS members paying their membership fees and contributing to its activities.