

ArAS News

NEWSLETTER

ARMENIAN ASTRONOMICAL SOCIETY (A r A S)



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IAU XXIX GENERAL ASSEMBLY



The XXIX General Assembly of the International Astronomical Union (IAU) took place on August 1-14, in Honolulu, Hawaii, USA. The General Assembly was an enormous success, with more than 3000 attendees from 74 countries across the world, including almost 100 members of the press. These numbers made it one of the largest IAU General Assemblies ever organised. The participants enjoyed a vast collection of scientific presentations in 6 symposia and 22 focus meetings on research, development, advancement and collaboration within astronomy.

One new country joined the organisation on this occasion: Colombia. The General Assembly also approved around 1200 new individual IAU members at its closing ceremony, bringing the total to almost 12 500 members.

From Armenia, the Deputy Director of BAO, Co-President of ArAS *Dr. Areg Mickaelian* and Ph.D. student *Ms. Sona Farmanyan* took part in IAU GA XXIX. **A.M. Mickaelian** gave oral talks on “*Recent Activities in Armenia Related to IAU ROAD and Strategic Plan*” and “*BAO Plate Archive Digitization, Creation of Electronic Database and its Scientific Usage*”, he also had two posters: “*Large homogeneous sample of X-ray selected AGN and its study*” and “*High-redshift quasars and blazars and their evolutionary relation to high-redshift galaxies*”. **S.V. Farmanyan** gave two oral talks: “*Astronomical Knowledge in Holly Books*” and “*Archaeo- and Cultural Astronomy in Armenia*”.



Four resolutions were approved by vote at the General Assembly. These included the confirmation and extension of the IAU strategic plan for astronomy in the developing world and the protection of radio astronomy observations in the 76–81 GHz frequency band.

It was decided that the IAU XXXI General Assembly in 2021 will be held in Busan, the Republic of Korea. Next IAU General Assembly (XXX) will be held in 2018 in Vienna, Austria.

The newly elected IAU officers are:

President: Silvia Torres-Peimbert (Mexico)

General Secretary: Piero Benvenuti (Italy, previous Assistant General Secretary)

President-elect: Ewine van Dishoeck (Netherlands)

General Secretary-elect: Maria Teresa Lago (Portugal, present Assitant General Secretary)



From left to right: IAU President-elect for 2018-2021 Ewine van Dishoeck (Netherlands), IAU President 2015-2018 Silvia Torres-Peimbert (Mexico), IAU General Secretary 2015-2018 Piero Benvenuti (Italy) and IAU General Secretary-elect for 2018-2021 Maria Teresa Lago (Portugal)

Seven press briefings took place on a wide range of topics, from the slow death of the Universe to the first science conducted using night-time photographs taken by astronauts aboard the International Space Station, and received worldwide media coverage (see iau1508, iau1509, iau1510 and iau1511).

Agreements were signed for five new IAU regional coordinating offices in Armenia, Colombia, Jordan, Nigeria and Portugal. This agreement seeks to realise the social benefits of astronomy as part of the IAU's decadal strategic plan.

During the assembly, the NameExoWorlds contest also opened its public vote to decide the names of 15 stars and 32 exoplanets.

Several public outreach events took place over the course of the General Assembly, including a stargazing party, school visits to the exhibition hall and astronomers visiting more than a dozen schools, reaching about 2000 students.

IAU AND ARMENIA SIGNED AGREEMENT FOR SOUTH WEST ASIAN ROAD

The **International Astronomical Union's (IAU) Office of Astronomy for Development (OAD)** has established new coordinating offices in Armenia, Colombia, Jordan, Nigeria and Portugal. Supporting the use of astronomy as a tool for development in specific regions and languages, the new partnerships form part of the IAU's decadal strategic plan – which aims to realize the societal benefits of astronomy.

The agreements were signed at the Hawai'i Convention Centre in Honolulu, Hawai'i, during the IAU General Assembly. The final signatures were received during a media event on Thursday 13 August 2015.



The five new offices will perform two important functions. Regional offices will coordinate astronomy for development activities in nearby countries, whilst language expertise centres will deal with language and/or cultural aspects. Each of the offices will be hosted by a local institution or consortium of institutes and supported in their efforts by regional partners.

The new coordinating offices of astronomy for development are as follows:

1. The **South West Asian Regional Office**, hosted at the Byurakan Astrophysical Observatory (BAO) in Armenia.
2. The **Andean Regional Office**, hosted at three collaborating institutions: Universidad de Los Andes (Colombia), Parque Explora-Planetario de Medellín (Colombia), and Sociedad Chilena de Astronomía (Chile).
3. The **Arab Regional Office** and **Arabic Language Expertise Centre**, hosted by the Arab Union for Astronomy and Space Sciences and located at the United Nations Regional Centre for Space Science and Technology Education in Jordan.
4. The **West African Regional Office**, hosted at the Centre for Basic Space Science (CBSS), National Space Research and Development Agency (NASRDA) in Nigeria.
5. The **Portuguese Language Expertise Centre**, hosted at Núcleo Interactivo de Astronomia (NUCLIO), in collaboration with the Institute of Astrophysics and Space Sciences in Portugal.

Together with existing offices around the world – the East Asian Regional Office and Chinese Language Expertise Centre in China; the East African Regional Office in Ethiopia; the South East Asian Regional Office in Thailand; and the Southern African Regional Office in Zambia – the OAD now comprises a network of eight regional offices and three language expertise centres.

The newly signed agreements follow the IAU's Announcement of Opportunity, which remains open to proposals for new regional offices and language expertise centres. For more information on OAD offices and activities, including the Call for Proposals for projects relating to the OAD's three main focus areas (universities & research, children & schools, and the public), please visit www.astro4dev.org.

NameExoWorlds Contest

VOTE FOR ARMENIAN NAMES

The NameExoWorlds contest, organised by the IAU, is now entering its historic final stage. The public voting on the shortlist of names for the ExoWorlds – 20 planetary systems comprising 15 stars and 32 exoplanets — starts today. The vote will decide the names for the selected stars and exoplanets.



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 provides not only the first opportunity for the public to name exoplanets, but also — for the first time in centuries — to give names to stars. Twenty stars with known exoplanets in orbit around them are among the objects selected to be named.

Astronomy clubs and non-profit organisations from 45 countries submitted 247 proposals for the names of the 20 ExoWorlds. These proposals can now be voted on at the NameExoWorlds website. A full list of the ExoWorlds can be found [here](#), which includes both single and multiple-planet systems. The names of the planets in each system, as well as their host stars, are open to public voting – excluding the five stars in the list that already have historical names.

Armenian Astronomical Society (ArAS) and **Armenian Youth Aerospace Society (AYAS)** also submitted proposals for naming exoplanets.

ArAS proposed names for **55 Cancri** star and planets (<http://nameexoworlds.iau.org/systems/115>):

- 55 Cancri Star** - Aregak
- 55 Cancri b** - Arusyak
- 55 Cancri c** - Hrat
- 55 Cancri d** - Yerevak
- 55 Cancri e** - Paylatzu
- 55 Cancri f** – Lusntag

AYAS proposed names for **Draconis** star and planet (<http://nameexoworlds.iau.org/systems/112>):

- Draconis Star** - Victor (after Viktor Ambartsumian)
- Draconis Planet** – Byurakan

Explanations for the names of the 20 host stars, in addition to personal messages from some of the scientists who discovered them, are available [here](#). No registration is required to participate, though each device (computer or smartphone) can only vote once for each of the 20 systems. A full set of instructions on how to vote can be viewed [here](#). The clubs and/or non-profit organisations that successfully propose a winning ExoWorld name will receive a plaque and will be eligible to propose a name for a minor planet (subject to the usual rules for minor planet naming).

Lisa Kaltenegger from Cornell University officially opened the contest and cast the first vote at a public ceremony held during the IAU's XXIX General Assembly in Honolulu, Hawai'i. The ceremony was accompanied by a special greeting from astronaut Scott Kelly, currently aboard the International Space Station, which was kindly facilitated by NASA.

ARMENIAN ASTRONOMERS AMONG NEW IAU MEMBERS

During its XXIX General Assembly, IAU accepted almost 1200 new members and among them, 7 from Armenia. Together with these 7 new members, at present there are 26 IAU members from Armenia. New IAU members are:

Ruben R. ANDREASYAN

Born 27.03.1949 in Yerevan, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (1972)
Works at BAO since 1974
Ph.D. degree 1985
Position at BAO: Senior research associate
Research fields: radiogalaxies, magnetic fields, pulsars
Membership: IAU (2015), European Astronomical Society (EAS), ArAS (1999)

Marietta V. GYULZADYAN

Born 13.12.1956 in Shamlugh, Toumanian District, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (1978)
Works at BAO since 1978
Ph.D. degree 2013
Position at BAO: Research associate
Lecturer at Physical-Mathematical high school after A. Shahinian, attached to YSU
Research fields: AGN, UV-excess galaxies, IRAS and starburst galaxies, cluster of galaxies
Membership: IAU (2015), ArAS (1999)
Council member: Jury member of Intern. Astron. Olympiad (IAO, since 2006), Jury member of Intern. Olympiad of Astron. and Astrophys. (IOAA, since 2012)
 Leader of Armenian pupils' team at IAO and IOAA
 Galileo Teacher, Armenian Representative of Galileo Teachers Training Program (GTTP)

Artur A. HAKOBYAN

Born 25.01.1981 in Gavar, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (2006)
Works at BAO since 2006
Ph.D. degree 2009
Position at BAO: Senior research associate
Research fields: supernovae, AGN, and starburst galaxies
Membership: IAU (2015), European Astronomical Society (EAS), ArAS (2009)
Council member: BAO Scientific Council
 Winner of ArAS annual prize for young astronomers (Yervant Terzian Prize, 2008)

Ashot A. HAKOBYAN (AKOPIAN)

Born 01.09.1957 in Tairov, Shahumian District, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (1979)
Works at BAO since 1979
Ph.D. degree 1998
Position at BAO: Senior research associate
Lecturer at YSU Department of Astrophysics
Research fields: stellar associations, flare stars, statistics
Membership: IAU (2015)
Council member: BAO Scientific Council, BAO Spec. Council for Sci. Degrees (Sci. Secretary), Chair of the Jury of Armenian National School Olympiads

Tigran H. MOVSESSIAN

Born 8.11.1955 in Yerevan, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (1978)
Works at BAO since 1979
Ph.D. degree 1992
Position at BAO: Deputy Director
Lecturer at YSU Department of Astrophysics
Research fields: young stellar objects, stellar jets, BCDGs, instrumentation
Membership: IAU (2015), European Astronomical Society (EAS), ArAS (1999)
Council member: BAO Scientific Council

Gagik T. TER-KAZARYAN

Born 21.06.1950 in Yerevan, Armenia
Graduated from Yerevan State University (YSU), Department of Astrophysics (1972)
Works at BAO since 1983
Ph.D. degree 1988, Doctor of Sciences
Position at BAO: Leading research associate
Research fields: superdense configurations, high energy astrophysics
Membership: IAU (2015)
Council member: BAO Scientific Council
 Awarded Al-Kharazmi prize for research in theoretical physics

Ararat G. YEGHIKIAN

Born 17.06.1955 in Alaverdi, Armenia
Graduated from Inst. of Theor. Phys. and Astron. (Vilnius, Lithuania), Dept Theor. & Math. Phys. (1982) & Leningrad St. Univ. (Russia), Dept Theor. Astrophys. (1984)
Works at BAO since 1978
Ph.D. degree 1988
Position at BAO: Senior research associate
Lecturer at YSU Department of Astrophysics
Research fields: planetary nebulae, interstellar medium
Membership: IAU (2015), European Astronomical Society (EAS)

ASTRONOMICAL SURVEYS AND BIG DATA



“*Astronomical Surveys and Big Data*” meeting dedicated to 50th anniversary of Markarian Survey and 10th anniversary of the Armenian Virtual Observatory (ArVO) will be held on Oct 5-9, 2015 in Byurakan, Armenia. We intend to combine astronomers and computer scientists with heavy involvement of astronomical surveys, catalogs, archives, databases and VOs. The Symposium is dedicated to Markarian Survey 50th anniversary. This survey led to the discovery of 1515 galaxies with UV excess – Markarian galaxies. BAO is famous for other surveys as well: Arakelian and Kazarian galaxies, Shahbazian compact groups, Parsamian cometary nebulae and other objects also are well known.

An update of **Invited Talks**, **Program** and **List of Participants** is given here.

INVITED TALKS

EXOPLANETS

Joachim Wambsgans (Germany) “Discovering extrasolar planets with gravitational microlensing surveys”
Garik Israelian (Spain) “” (TBC)

STARS and NEBULAE

Tigran Magakian (Armenia) “Searches of Herbig-Haro objects: history, current situation and perspectives”
Oleg Malkov (Russia) “The Binary star database BDB: current status and scientific tasks”
Elena Nikoghosyan (Armenia) “The search and study of PMS stars with H α emission”
Kamo Gigoyan (Armenia) “Cool Carbon Stars in the Halo”
Armen Gyulbudaghian (Armenia) “Two Types of Radial Systems of Dark Globules”

GALAXIES and COSMOLOGY

Johan Knapen (Spain) “Nearby galaxy surveys in the next decade”
Areg Mickaelian (Armenia) “Search and studies of active galaxies at BAO”
Jesus Falcon-Barroso (Spain) “Understanding the nearby Universe through the CALIFA survey”
David Schade (Canada) “” (TBC)
Andrew Lawrence (UK) “Clues to the structure of AGN through massive variability surveys”
Serguei Dodonov (Russia), Tigran Movsessian (Armenia) “Medium Band Byurakan Survey: Scientific goals and Technical Details”
Ararat Yeghikyan (Armenia) “On survivability of ices in active galaxies”

DATABASES and VOs

Areg Mickaelian (Armenia) “Astronomical Surveys, Catalogs, Databases and Archives”
Hrachya Astsatryan (Armenia) “Computational Astrophysics towards Exascale Computing and Big Data”
Christophe Arviset (Spain) “The Gaia Archive: VO in action in the big data era”
Alain Sarkissian (France) “Data bases in planetary space research: the International Planetary Data Alliance, IPDA”
Haik Harutyunian (Armenia) “Brief Survey of Activity Phenomena in Cosmic Objects”
Areg Mickaelian (Armenia) “BAO plate archive digitization project and its scientific usage”

PROGRAM**Monday, 05 Oct 2015**

- 10:00-10:10 **Opening of the Meeting**
- 10:10-10:50 Alain Sarkissian (France) “The International Planetary Data Alliance (IPDA): overview of the activities” (Invited Review)
- 10:50-11:30 Joachim Wambsganss (Germany) “Discovering extrasolar planets with gravitational microlensing surveys” (Invited Review)
- 11:30-12:00 *Coffee/tea break*
- 12:00-12:45 Haik Harutyunian (Armenia) “Brief Survey of Activity Phenomena in Cosmic Objects” (Invited Review)
- 12:45-13:30 Areg Mickaelian (Armenia) “Astronomical Surveys, Catalogs, Databases and Archives” (Invited Review)
- 13:30-14:30 *Lunch*
- 14:30-15:10 Serguei Dodonov (Russia), Tigran Movsessian (Armenia) “Medium Band Byurakan Survey: Scientific Goals and Technical Details” (Invited Review)
- 15:10-15:35 Martin Topinka (Czech Republic) “Machine learning classification of transient events in robotic telescope surveys”
- 15:35-16:00 Anahit Samsonyan (Armenia) “The Cornell Atlas of Spitzer/IRS Sources”
- 16:00-18:00 *BAO tour: Viktor Ambartsumian museum, 2.6m and 1m Schmidt telescopes*
- 18:00-19:00 **Welcome Reception**

Tuesday, 06 Oct 2015

- 10:00-10:45 Christophe Arviset (Spain) “The Gaia Archive: VO in action in the big data era” (Invited Review)
- 10:45-11:30 Tigran Magakian (Armenia) “Searches of Herbig-Haro objects: history, current situation and perspectives” (Invited Review)
- 11:30-12:00 *Coffee/tea break*
- 12:00-12:45 Oleg Malkov (Russia) “The Binary star database BDB: current status and scientific tasks” (Invited Review)
- 12:45-13:30 Hrachya Astsatryan (Armenia) “Computational Astrophysics towards Exascale Computing and Big Data” (Invited Review)
- 13:30-14:30 *Lunch*
- 14:30-15:15 Armen Gyulbudaghian (Armenia) “Two Types of Radial Systems of Dark Globules” (Invited Review)
- 15:15-16:00 Elena Nikoghosyan (Armenia) “The search and study of PMS stars with H α emission” (Invited Review)
- 16:00-16:30 *Coffee/tea break*
- 16:30-17:10 Kamo Gigoyan (Armenia) “Cool Carbon Stars in the Halo” (Invited Review)
- 17:10-17:30 Aram Knyazyan (Armenia) “Armenian Virtual Observatory: Services and Data Sharing”
- 17:30-17:50 Yikdem Mengesha Gebrehiwot (Ethiopia) “Fictitious and excess data in principal catalogues of visual binaries”

Wednesday, 07 Oct 2015

- 10:00-10:45 Johan Knapen (Spain) “Nearby galaxy surveys in the next decade” (Invited Review)
- 10:45-11:30 Areg Mickaelian (Armenia) “Search and studies of active galaxies at BAO” (Invited Review)
- 11:30-12:00 *Coffee/tea break*
- 12:00-12:45 Andrew Lawrence (UK) “Clues to the structure of AGN through massive variability surveys” (Invited Review)
- 12:45-13:30 Jesus Falcon-Barroso (Spain) “Understanding the nearby Universe through the CALIFA survey” (Invited Review)
- 13:30-14:30 *Lunch*
- 14:30-19:00 *Excursion to Garni Temple and Geghard Monastery*

Thursday, 08 Oct 2015

10:00-10:30	Ararat Yeghikyan (Armenia) "On survivability of ices in active galaxies" (Invited Review)
10:30-10:55	Susanna Hakopian (Armenia) "Exploring the subsample of SBS galaxies. Current results"
10:55-11:30	Areg Mickaelian (Armenia) "BAO plate archive digitization project and its scientific usage" (Invited Review)
11:30-12:00	<i>Coffee/tea break</i>
12:00-12:30	Garik Israelian (Spain) "" (Invited Review)
12:30-13:00	David Schade (Canada) "" (Invited Review)
13:00-13:20	Eugene Kazakov (Russia) "About cross-identifications of Almagest catalog and others"
13:20-13:40	Irakli Simonia (Georgia) "DVD database Astronomical Manuscripts in Georgia"
13:40-14:40	<i>Lunch</i>
14:40-15:00	Poster Session
15:00-16:00	General discussion and Closing of the Symposium
16:00-16:30	<i>Coffee/tea break</i>
16:00-19:00	Excursion to medieval Amberd fortress
19:00-22:00	Symposium banquet

Posters

Hayk Abrahamyan; A.M. Mickaelian – Properties of IRAS PSC/FSC galaxies
 Hasmik Andreasyan; R.R. Andreasyan; G.M. Paronyan – The Galactic distribution of Normal pulsars
 Ivan L. Andronov; L.L. Chinarova; L.S. Kudashkina; V.I. Marsakova; M.G. Tkachenko – Statistically Optimal Approximations of Astronomical Signals:
 Implications to Classification and Advanced Study of Variable Stars
 Lidija Erastova – The Tadpole Galaxies in SBS
 Lidija Erastova – The Sample of Spectroscopic Binary Stars in the SBS Survey.
 Lidija Erastova; Areg Mickaelian – Revised and Updated Catalogue of the Second Byurakan Sky Survey
 Susanna Hakopian; Smbat Balayan – Revealing of HII-regions in galaxies with panoramic spectroscopy
 Anahit Yeghiazaryan; Artur Hakobyan; Tigran Nazaryan – On the interaction in a quartet of galaxies

LIST OF PARTICIPANTS

Surname	Name	Affiliation	Country
Abrahamyan	Hayk	Byurakan Astrophysical Observatory	Armenia
Andreasyan	Hasmik	Byurakan Astrophysical Observatory	Armenia
Arviset	Christophe	ESA-ESAC	Spain
Astsatryan	Hrachya	Institute for Informatics and Automation Problems	Armenia
Dodonov	Serguei	Special Astrophysical Observatory (SAO)	Russia
Erastova	Lidija	Byurakan Astrophysical Observatory	Armenia
Falcon-Barroso	Jesus	Instituto de Astrofisica de Canarias	Spain
Farmanyan	Sona	Byurakan Astrophysical Observatory	Armenia
Gebrehiwot	Yikdem	Entoto Observatory abd Research center	Ethiopia
Gigoyan	Kamo	Byurakan Astrophysical Observatory	Armenia
Gyulbudaghian	Armen	Byurakan Astrophysical Observatory	Armenia
Gyulzadyan	Marietta	Byurakan Astrophysical Observatory	Armenia
Hakopian	Susanna	Byurakan Astrophysical Observatory	Armenia
Harutyunian	Haik	Byurakan Astrophysical Observatory	Armenia
Israelian	Garik	Instituto de Astrofisica de Canarias	Spain

Karapetian	Emilia	Yerevan State University	Armenia
Kazakov	Eugene		Russia
Khachatryan	Knarik	Byurakan Astrophysical Observatory	Armenia
Kia	Mohammad	Amirkabir University of Technology	Iran
Knapen	Johan	Instituto de Astrofisica de Canarias	Spain
Knyazyan	Aram	Institute for Informatics and Automation Problems	Armenia
Kostandyan	Gayane	Byurakan Astrophysical Observatory	Armenia
Lawrence	Andy	Royal Observatory Edinburgh, AstroGrid	United Kingdom
Magakian	Tigran	Byurakan Astrophysical Observatory	Armenia
Malkov	Oleg	Institute of Astronomy	Russia
Melikian	Norayr	Byurakan Astrophysical Observatory	Armenia
Mickaelian	Areg	Byurakan Astrophysical Observatory	Armenia
Movsessian	Tigran	Byurakan Astrophysical Observatory	Armenia
Nightingale	James	Nottingham	United Kingdom
Nikoghosyan	Elena	Byurakan Astrophysical Observatory	Armenia
Paronyan	Gurgen	Byurakan Astrophysical Observatory	Armenia
Parsamian	Elma	Byurakan Astrophysical Observatory	Armenia
Samsonyan	Anahit	Byurakan Astrophysical Observatory	Armenia
Sangaralingam	Vinothini	University de Montreal	Canada
Sarkissian	Alain	LATMOS, Institute Pierre Simon Laplace, CNRS	France
Schade	David	Canadian Virtual Observatory (CVO)	Canada
Sefilian	Antranik	American University of Beirut	Lebanon
Simonia	Irakli	Ilia State University	Georgia
Simonia	Tsitsino	Ilia State University	Georgia
Topinka	Martin	Czech Technical University	Czech Republic
Vardanyan	Ani	Byurakan Astrophysical Observatory	Armenia
Wambsganss	Joachim	Universitaet Heidelberg	Germany
Yeghiazaryan	Anahit	Byurakan Astrophysical Observatory	Armenia
Yeghikian	Ararat	Byurakan Astrophysical Observatory	Armenia

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ARMENIAN-IRANIAN ASTRONOMICAL WORKSHOP



Armenian-Iranian Astronomical Workshop will be held on Oct 13-16, 2015 in Byurakan, Armenia. Armenia and Iran are among the most ancient countries in the world and have lived as neighbours through thousands years of history. Armenian and Iranian culture has many similarities and relations. During the recent years, tight relations are being established in more and more spheres, including politics, economy, tourism, sports, culture and indeed science. This Workshop is to strengthen our scientific relations and establish new collaboration. We plan to organize such workshops on annual basis, succeeding each other one in Armenia and one in Iran.

An update of **Invited Talks** and the **List of Participants** are given.

INVITED TALKS

Ali Adjabshirizadeh (Iran) – *Heliophysics and Space Weather*

Grigor Broutian (Armenia) – *The relation of 300-day and 360-day years in the oldest Armenian calendars*

Amin Farhang (Iran) – *EDIBLESS large survey: searching for DIB origin with VLT*

Armen Gyulbudaghian (Armenia) – *Radial Systems of Dark Globules*

Haik Harutyunian (Armenia) – *Byurakan Astrophysical Observatory and Viktor Ambartsumian*

Habib Khosroshahi (Iran) – *Iranian National Observatory (INO)*

Habib Khosroshahi (Iran) – *Multi-wavelengths studies of fossil galaxy groups*

Tigran Magakian (Armenia) – *Search for Young Stars in Byurakan Astrophysical Observatory*

Norayr Melikian (Armenia) – *The Study of Flare Stars in Byurakan Observatory*

Areg Mickaelian (Armenia) – *Armenian Astronomical Society (ArAS) activities*

Areg Mickaelian (Armenia) – *BAO Plate Archive and Armenian Virtual Observatory (ArVO)*

Tigran Movsessian (Armenia) – *Observational Possibilities in BAO*

Arthur Nikoghossian (Armenia) – *Theoretical astrophysics in the Byurakan Observatory*

Sohrab Rahvar (Iran) – *Extra-solar planet detection with gravitational Microlensing*

Narek Sahakyan (Armenia) – *Exploring the Universe with gamma-rays and neutrinos*

Aram Saharian (Armenia) – *Quantum Effects in Cosmology*

Maya Todua (Georgia) – *Astronomy in Georgia – Present Status and Perspectives*

Ararat Yeghikyan (Armenia) – *Irradiation of ices inside molecular clouds in cosmic ray dominated regions of galaxies*

PROGRAM**Tuesday, 13 Oct 2015**

- 16:00-18:00 *BAO tour: Viktor Ambartsumian museum, 2.6m and Im Schmidt telescopes*
- 18:00-19:00 **Official Inauguration of IAU South West Asia Regional Office of Astronomy for Development (SWA ROAD)**
(IAU representatives, Ambassadors of Iran and Georgia in Armenia, other officials)
- 19:00-20:00 *Welcome Reception*

Wednesday, 14 Oct 2015

- 09:00-10:00 *Breakfast*
- 10:00-10:15 **Opening of the Workshop**
- 10:15-10:40 Haik Harutyunian (Armenia) – *Byurakan Astrophysical Observatory and Viktor Ambartsumian* (Invited Talk)
- 10:40-11:05 Habib Khosroshahi (Iran) – *Iranian National Observatory (INO)* (Invited Talk)
- 11:05-11:30 Areg Mickaelian (Armenia) – *Armenian Astronomical Society (ArAS) activities* (Invited Talk)
- 11:30-12:00 *Coffee/tea break*
- 12:00-12:30 Maya Todua (Georgia) – *Astronomy in Georgia – Present Status and Perspectives* (Invited Talk)
- 12:30-13:00 Tigran Movsessian (Armenia) – *Observational Possibilities in BAO* (Invited Talk)
- 13:00-13:30 Arthur Nikoghossian (Armenia) – *Theoretical astrophysics in the Byurakan Observatory* (Invited Talk)
- 13:30-14:30 *Lunch*
- 14:30-15:00 Ali Adjabshirizadeh (Iran) – *Heliophysics and Space Weather* (Invited Talk)
- 15:00-15:15 Hossein Safari (Iran) – *Magnetic structures of small scale solar coronal events*
- 15:15-15:30 Ehsan Tavabi (Iran) – *Limb Event Brightenings and Fast Jets*
- 15:30-15:45 Hasmik Andreasyan (Armenia) – *On the distribution of pulsars in the Galaxy*
- 15:45-16:00 Gayane Kostandyan (Armenia) – *Investigation of Faint Galactic Carbon Stars from the First Byurakan Spectral Sky Survey*
- 16:00-16:30 *Coffee/tea break*
- 16:30-17:00 Sohrab Rahvar (Iran) – *Extra-solar planet detection with gravitational Microlensing* (Invited Talk)
- 17:00-17:30 Tigran Magakian (Armenia) – *Search for Young Stars in Byurakan Astrophysical Observatory* (Invited Talk)
- 17:30-17:45 Mkrtich Gevorgyan (Armenia) – *Integral field spectroscopy of HH161*
- 17:45-18:00 Zahra Bagheri (Iran) – *Evaluation the effect of energetic particles in solar flares on satellite electronic computer's life time*
- 18:30-19:30 *Dinner*
- 19:30-22:30 **Yerevan city tour**

Thursday, 15 Oct 2015

- 09:00-10:00 *Breakfast*
- 10:00-10:30 Norayr Melikian (Armenia) – *The Study of Flare Stars in Byurakan Observatory* (Invited Talk)
- 10:30-11:00 Amin Farhang (Iran) – *EDIBLESS large survey: searching for DIB origin with VLT* (Invited Talk)
- 11:00-11:30 Armen Gyulbudaghian (Armenia) – *Radial Systems of Dark Globules* (Invited Talk)
- 11:30-12:00 *Coffee/tea break*
- 12:00-12:15 Elena Nikoghosyan (Armenia) – *The Multiple Systems in the Young Stellar Cluster IRAS 05137+3919*
- 12:15-12:30 Ani Vardanyan (Armenia) – *The Statistical Analysis of stars with Ha emission in IC 348 Cluster*
- 12:30-12:45 Naira Azatyan (Armenia) – *The search of the stellar clusters in vicinity of YSOs with high and middle masses*
- 12:45-13:00 Maya Todua (Georgia) – *Annual and semi-annual variability of cloud covering in Abastumani and coupling with cosmic factors*
- 13:00-13:30 Habib Khosroshahi (Iran) – *Multi-wavelengths studies of fossil galaxy groups* (Invited Talk)
- 13:30-14:30 *Lunch*
- 14:30-15:00 Ararat Yeghikyan (Armenia) – *Irradiation of ices inside molecular clouds in cosmic ray dominated regions of galaxies* (Invited Talk)
- 15:00-15:15 Pantea Davoudifar (Iran) – *The interrelationship between interactions/merging, starburst and AGN phenomena based on IR sample*

- 15:15-15:30 Areg Mickaelian (Armenia) – *AGN content of X-ray, IR and radio sources*
 15:30-15:45 Hayk Abrahamyan (Armenia) – *Blazars properties*
 15:45-16:00 Moein Mosleh (Iran) – *The Growth of Galaxies over the last 12 Billion Years*
 16:00-16:30 *Coffee/tea break*
 16:30-16:45 Halime Miraghaei Jafari (Iran) – *Radio properties of fossil galaxy groups*
 16:45-17:00 Anahit Samsonyan (Armenia) – *Mid-Infrared [NeII] and [NeIII] Emission Line Profiles in Starbursts and AGN*
 17:00-17:15 Mahmood Roshan (Iran) – *On the local and global stability of spiral galaxies in modified gravity*
 17:15-17:30 Norayr Asatrian (Armenia) – *Simultaneous hour-timescale variations in the profiles of the broad Balmer lines of the Seyfert galaxy Markarian 6*
 17:30-17:45 Shahram Abbassi (Iran) – *Black Hole Accretion disk: Toward a New Paradigm*
 17:45-18:00 Alireza Aghaee (Iran) – *Observational Cosmology Using Absorption Lines in Quasar Spectra*
 18:00-18:15 Shant Baghran (Iran) – *CMB Lensing as a Probe of Early Universe*
 18:15-18:30 Haik Harutyunian (Armenia) – *“Pioneers’ Anomaly” and the Acceleration of the Universe*
 19:00-22:00 *Workshop Dinner*

Friday, 16 Oct 2015

- 09:00-10:00 *Breakfast*
 10:00-10:30 Narek Sahakyan (Armenia) – *Exploring the Universe with gamma-rays and neutrinos* (Invited Talk)
 10:30-11:00 Grigor Broutian (Armenia) – *The relation of 300-day and 360-day years in the oldest Armenian calendars* (Invited Talk)
 11:00-11:15 Sona Farmanyan (Armenia) – *Cosmic Tree in Armenia and Iran*
 11:15-11:45 *Coffee/tea break*
 11:45-12:15 Areg Mickaelian (Armenia) – *BAO Plate Archive and Armenian Virtual Observatory (ArVO)* (Invited Talk)
 12:15-13:30 **General discussion and Closing of the Workshop**
 13:30-14:30 *Lunch*
 14:30-16:00 *Excursion and Departure*

Posters

Vajihe Sabzali; Pantea Davoudifar; Areg Mickaelian – *The Study of Relativistic AGN Jets and Experimental Survey of AGN Properties*
 Anahit Yeghiazaryan – *On Galaxies with UV excess from Kazarian lists*

LIST OF PARTICIPANTS

Surname	Name	Affiliation	Country
Abbassi	Shahram	Ferdowsi University of Mashhad	Iran
Abrahamyan	Hayk	Byurakan Astrophysical Observatory	Armenia
Aghaee	Alireza	University of Sistan and Baluchestan	Iran
Ajabshirizadeh	Ali	The University of Tabriz & UPMC	Iran
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Asatrian	Norayr	Byurakan Astrophysical Observatory	Armenia
Azatyanyan	Naira	Byurakan Astrophysical Observatory	Armenia
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Baghran	Shant	Sharif University of Technology	Iran
Broutian	Grigor	Matenadaran	Armenia
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Gevorgyan	Mkrtich	Byurakan Astrophysical Observatory	Armenia
Gyulbudaghian	Armen	Byurakan Astrophysical Observatory	Armenia
Gyulzadyan	Marietta	Byurakan Astrophysical Observatory	Armenia
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Magakian	Tigran	Byurakan Astrophysical Observatory	Armenia
Melikian	Norayr	Byurakan Astrophysical Observatory	Armenia
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Nikoghosyan	Elena	Byurakan Astrophysical Observatory	Armenia
Ohanian	Gabriel	Byurakan Astrophysical Observatory	Armenia
Paronyan	Gurgen	Byurakan Astrophysical Observatory	Armenia
Parsamian	Elma	Byurakan Astrophysical Observatory	Armenia
Rahvar	Sohrab	Sharif University of Technology	Iran
Roshan	Mahmood	Ferdowsi University of Mashhad	Iran
Sabzali	Vajihe	Research Institute for Astronomy and Astrophysics of Maragha	Iran
Safari	Hossein	University of Zanjan	Iran
Sahakyan	Narek	ICRANet	Armenia
Saharian	Aram	Yerevan State University (YSU)	Armenia
Samsonyan	Anahit	Byurakan Astrophysical Observatory	Armenia
Tavabi	Ehsan	Payame Noor University (PNU)	Iran
Todua	Maya	Abastumani Astrophysical Observatory at Ilia State University	Georgia
Vardanyan	Ani	Byurakan Astrophysical Observatory	Armenia
Yeghiazaryan	Anahit	Byurakan Astrophysical Observatory	Armenia
Yeghikian	Ararat	Byurakan Astrophysical Observatory	Armenia

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9th INTERNATIONAL OLYMPIAD on ASTRONOMY and ASTROPHYSICS

The 9th International Olympiad on Astronomy and Astrophysics (IOAA) was held in Central Java, Indonesia from 26th July to 4th August, 2015. International Olympiad of Astronomy and Astrophysics (IOAA) is an annual event for highly performed high school students from all around the world in the field of Astronomy and Astrophysics. Established in Thailand 2006, it was initiated by five countries including Thailand, Indonesia, Iran, China and Poland with the aim to proliferate Astronomy among high school students, to foster friendship among young astronomers at international level so as to build cooperation in the field of Astronomy in the future among the young scholars.

Some of the countries, IOAA, are Thailand in Iran in 2009, China in 2010, 2012, Greece in 2013, and in 2015, India will be number of participating increased since its initiation; outset to 37 countries with



which have ever hosted 2007, Indonesia in 2008, Poland in 2011, Brazil in Romania in 2014, Indonesia hosting the IOAA 2016. The countries has significantly from 20 countries at its 41 teams in 2014.

The first president of IOAA is *Prof. Boonrucksar Soonthornthum* and *Dr. Chatief Kunjaya* from Indonesia as Secretary General. The election for the President and Secretary General is regularly conducted in 5 years term. After the election in Poland 2011, *Dr. Chatief Kunjaya* of Indonesia is currently enacting as President of the organization and *Dr. Gregorz Stachowski* from Poland as the Secretary General for 2012-2016.

The table gives all IOAA by years, countries, host cities and absolute winners.

Number	Year	Host country	Host city	Absolute winner
1	2007	Thailand	Chiang Mai	THA Suwun Suwunnarat
2	2008	Indonesia	Bandung	IND Nitin Jain
3	2009	Iran	Tehran	IND Nitin Jain
4	2010	China	Beijing	POL Przemysław Mróz
5	2011	Poland	Chorzów / Katowice / Krakow	CZE Stanislav Fort
6	2012	Brazil	Rio de Janeiro / Vassouras	LTU Motiejus Valiūnas
7	2013	Greece	Volos	ROM Denis Turcu
8	2014	Romania	Suceava / Gura Humorului	ROM Denis Turcu
9	2015	Indonesia	Magelang / Semarang	INA Joandy Leonata Pratama
10	2016	India	Bhubaneswar	
11	2017	Kazakhstan/ Thailand	TBD	TBD
12	2018	Sri Lanka	TBD	TBD
13	2019	Hungary	TBD	TBD
14	2020	Colombia	TBD	TBD
15	2021	Serbia	TBD	TBD

In IOAA participant faces four exams:

1. **Theoretical Exam:** consisting on 15 short questions and 2 or 3 long questions, with 5 hours to solve. It counts as 50% of the mark.
2. **Data Analysis Exam:** a paper- or computer-based task for analyzing actual data obtained from professional astronomers, with usually 4 hours to solve. It counts as 25% of the mark.
3. **Observational Exam:** questions concerning direct observation of the sky (in the real sky or in a planetarium), recognizing stars, constellations, nebulae, great circles, etc. It counts as 25% of the mark.
4. **Team Competition:** a separated competition, in which national teams are set to do a huge task, involving both individual and group efforts, with theoretical and/or practical reasoning.

The criteria for prize nominations at IOAA is as follows: the average of the three biggest marks makes 100%. Gold medals are between 100 and 90%, silver medals are between 90 and 78%, bronze medals are between 78 and 65% and honor mentions are between 65 and 50%.



There were 208 participants and 90 team leaders representing 39 countries. This year 5 Armenian students took part in the IOAA. Three of pupils from PhysMath School became honors of **Bronze Medal** (Hrant Topchyan, Ara Mambreyan, Edgar Vardanyan), while Ashot Movsisyan from PhysMath School and Ashot Matevosyan from Quantum College got **Honour of Mention**. The team leaders were *Dr. Marietta Gyulzadyan* (BAO researcher and PhysMath School teacher) and *Dr. Emilia Karapetyan* (YSU lecturer).

Our students performed good results at Theoretical exam, but the same cannot be said about Observation exam. The reason is that our students could not train for the Observational exam as in Armenia we do not have any planetariums, while all other countries who participated to the Olympiad are equipped with modern planetariums.

Maritetta Gyulzadyan
BAO researcher and Phys.-Math. School teacher

RELEASE OF IAU ASTRONOMY OUTREACH NEWSLETTER #11



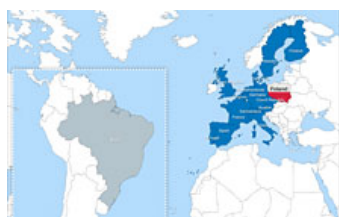
Read in this newsletter:

1. From the Editors
2. NameExoWorlds contest opens for public voting
3. Graphic Designer Internship Opportunity at the IAU Office of Astronomy Outreach (OAO)
4. CosmicLight IYL2015: Light: Beyond the Bulb latest news
5. CosmicLight IYL2015: CosmicLight EDU kit workshops continues to support teachers around the world
6. CosmicLight IYL2015: Galileoscope news
7. CosmicLight IYL2015: Measure the quality of your sky with Dark Sky Meter app
8. Kai‘aleleiaka: the official newspaper during IAU XXXIX General Assembly
9. HighLIGHT of the Month: Quality Lighting teaching Kit workshop in Honolulu
10. CosmicLight around the world
11. Upcoming meetings & global events around the globe
12. Contributions to this newsletter

RELEASE OF ESO OUTREACH COMMUNITY NEWSLETTER AUGUST ISSUE



ESO Announcements



Poland Ratifies ESO Membership — Poland becomes ESO's fifteenth Member State

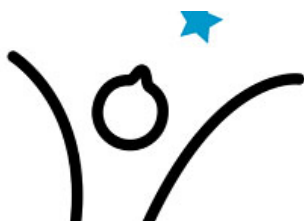
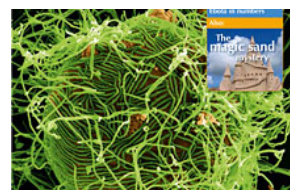
Poland has now completed the ratification of its membership of ESO and becomes the organization's fifteenth Member State.

Read more at: <http://www.eso.org/public/announcements/ann15060/>

Science in School: Issue 32 now available

The latest issue of the free magazine Science in School is now available online and in printed form.

Read more at: <http://www.eso.org/public/announcements/ann15057/>



Catch a Star 2015 Contest Winners Announced

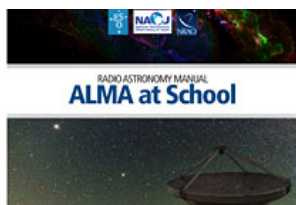
The winners of this year Catch a Star Contest have been announced. ESO is providing a mounted image of fascinating astronomical objects for each of the top five places.

Read more at: <http://www.eso.org/public/announcements/ann15054/>

The Messenger No. 160 Now Available

The latest edition of ESO's quarterly journal, The Messenger, is now available online.

Read more at: <http://www.eso.org/public/announcements/ann15053/>



ALMA Material for Teachers

New educational material about radio astronomy, ALMA at School, co-authored by the Joint ALMA Observatory and ESO, is now available for free in the educational material section of ESO.

Read more at: <http://www.eso.org/public/announcements/ann15052/>

CAPjournal Issue 17 Now Available — The IAU's Journal on Communicating Astronomy with the Public

In this issue you will find articles discussing outreach activities for the Google Lunar XPRIZE race to the Moon.

Read more at: <http://www.eso.org/public/announcements/ann15050/>



Artistic Apparition at ALMA — Observatory hosts monumental golf ball installation

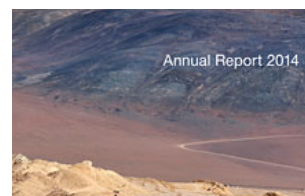
The ALMA Observatory recently received its first art exhibit: a golf ball of enormous proportions, displayed alongside the antennas at an altitude of 5000 meters above sea level.

Read more at: <http://www.eso.org/public/announcements/ann15048/>

ESO Annual Report 2014 Now Available

16 June 2015: The ESO Annual Report 2014 is now available. It presents the many activities of the ESO throughout the year.

Read more at: <http://www.eso.org/public/announcements/ann15044/>



AstroCamera 2015 Winners Announced

The winners of this year's AstroCamera competition have been announced. Rolf Wahl Olsen is the winner in the Deep Sky Objects category, Gerald Rhemann in the Solar System Objects category, and David Lane in the Astrolandscape category.

Read more at: <http://www.eso.org/public/announcements/ann15043/>

Gabriel OHANIAN – 60

Recently **Dr. Gabriel OHANIAN** celebrated his 60th anniversary. Gabriel A. Ohanian was born on 12 August 1955 in Bagratashen (Noyemberian region), Armenia. He graduated from Yerevan State University (YSU), Department of Astrophysics in 1978 and the same year started working at BAO. He joined the radio astronomy division and his main research was done in this area. He got his Ph.D. degree in 1998 and since then he is a Research Associate at BAO. During many years he has also been a Fellow of the Laboratory of BAO 2.6m telescope. G.A. Ohanian works on radiogalaxies, Gigahertz-Peaked Sources (GPS), blue compact dwarf galaxies (BCDGs) and other subjects. He has more than 25 papers in *Astrophysics* and some other journals, as well as in Proceedings of meetings. He is ArAS founding member (1999). In 2009 he received an ANSEF grant on *Integral Field Spectroscopy of Different Types Radio Galaxies with Various Linear Sizes*.

We congratulate *Dr.* Ohanian and wish him many new scientific results.

Obituaries

Sargis GURZADYAN

Prof. Sargis Gurzadyan, one of the famous Armenian architects and one of the authors of BAO architectural ensemble, passed away on August 4, 2015 at the age of 86. *Prof.* Gurzadyan was one of the distinguished architects whose architectural style always delighted the public. He was born on May 20, 1929, in Yerevan, Armenia. In 1951 he graduated from State Engineering University of Armenia and since 1962 worked there as a senior lecturer. He worked at ArmProject (“*HayNakhagitz*”) Institute and from 1969 was the head of the art studio, and in 1974-1979 he was the Secretary of the Board at the Union of Architects. By his projects a number of well-known buildings were accomplished in Byurakan Astrophysical Observatory, such as the Conference Hall (1964), 2.6m telescope (1976) and Laboratory Building (1985). He was also the author of the Research Institute of Radio Physics (1962-1965) and Electronics in Ashtarak, Astronomical Research Institute of Garni (1976), and many other buildings and ensembles. He was a Deserved Architect of Armenia (1971).

Sargis Gurzadyan was the famous astrophysicist Grigor Gurzadyan’s brother.



SEPTEMBER CALENDAR OF ASTRONOMICAL EVENTS

Monthly Calendar of Astronomical Events
SEPTEMBER 2015

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1 Neptune at opposition	2 Lunar occultation of Uranus	3	4 Junior Astronomers Club visit to Byurakan Observatory	5 Lunar crescent (first quarter)	6 Pegasids meteor shower	7
8	9	10	11	12	13 New moon Partial Solar Eclipse	14 John Dobson's (1915-2014) 100th anniversary
15	16	17	18 Viktor Ambartsumian's Birthday: Astronomy Day in Armenia Call for nominations of Viktor Ambartsumian International Prize 2016	19	20	21 Lunar crescent (first quarter)
22	23 Autumnal Equinox	24	25	26	27	28 Full moon Super Moon Total Lunar Eclipse
29 Lunar occultation of Uranus	30	31 ArAS Newsletter #85 release				