

# IAU South West Asian ROAD



**Areg M. Mickaelian**  
*Director, IAU SWA ROAD*

*Opening Ceremony of Arab ROAD and Arabic Language Expertise Centre  
02 December 2015, Amman, Jordan*

# Overview

- Overview of regional contacts
- Background for creation of ROAD in Armenia
- IAU SWA ROAD project
- Establishment of IAU SWA ROAD
- IAU SWA ROAD Webpage
- IAU SWA ROAD Staff and Regional Steering Committee
- IAU SWA ROAD Activities
- IAU SWA and Arab ROADS collaboration

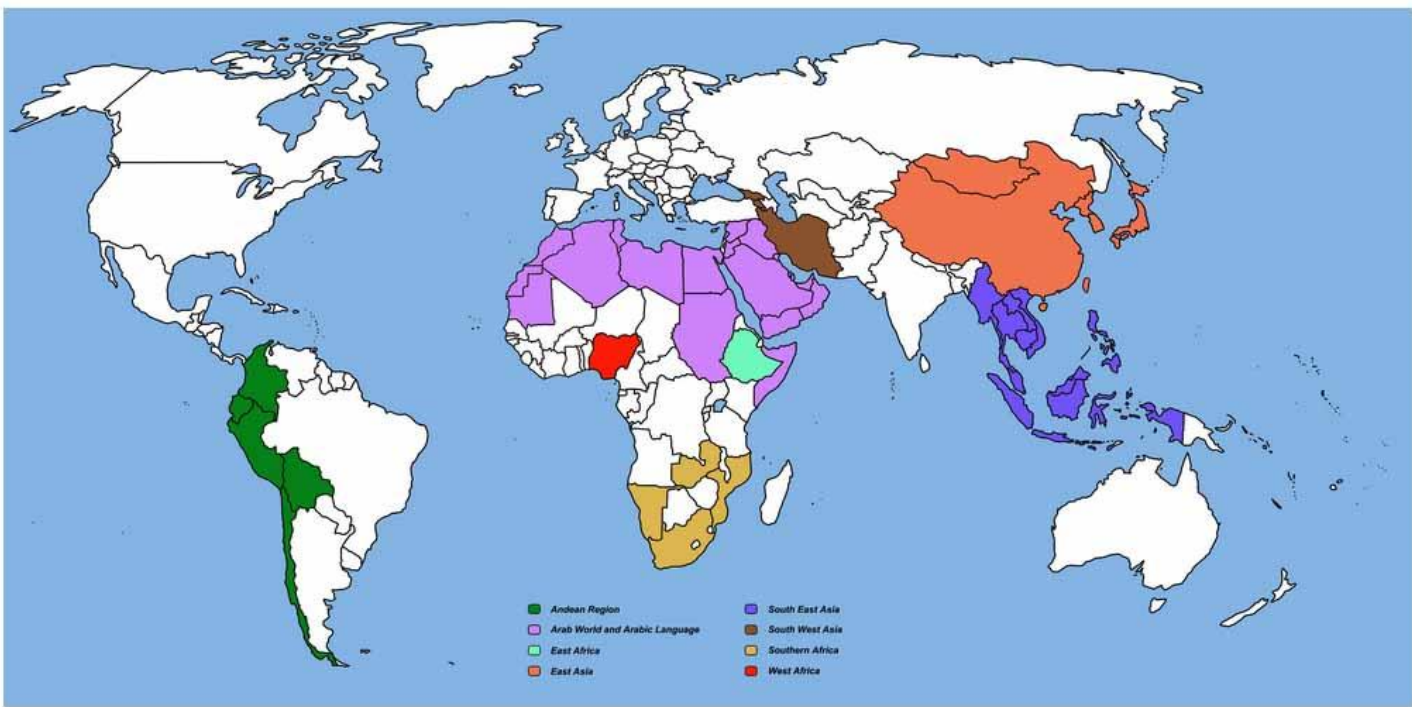


# South West Asia

## Regional Office of Astronomy for Development

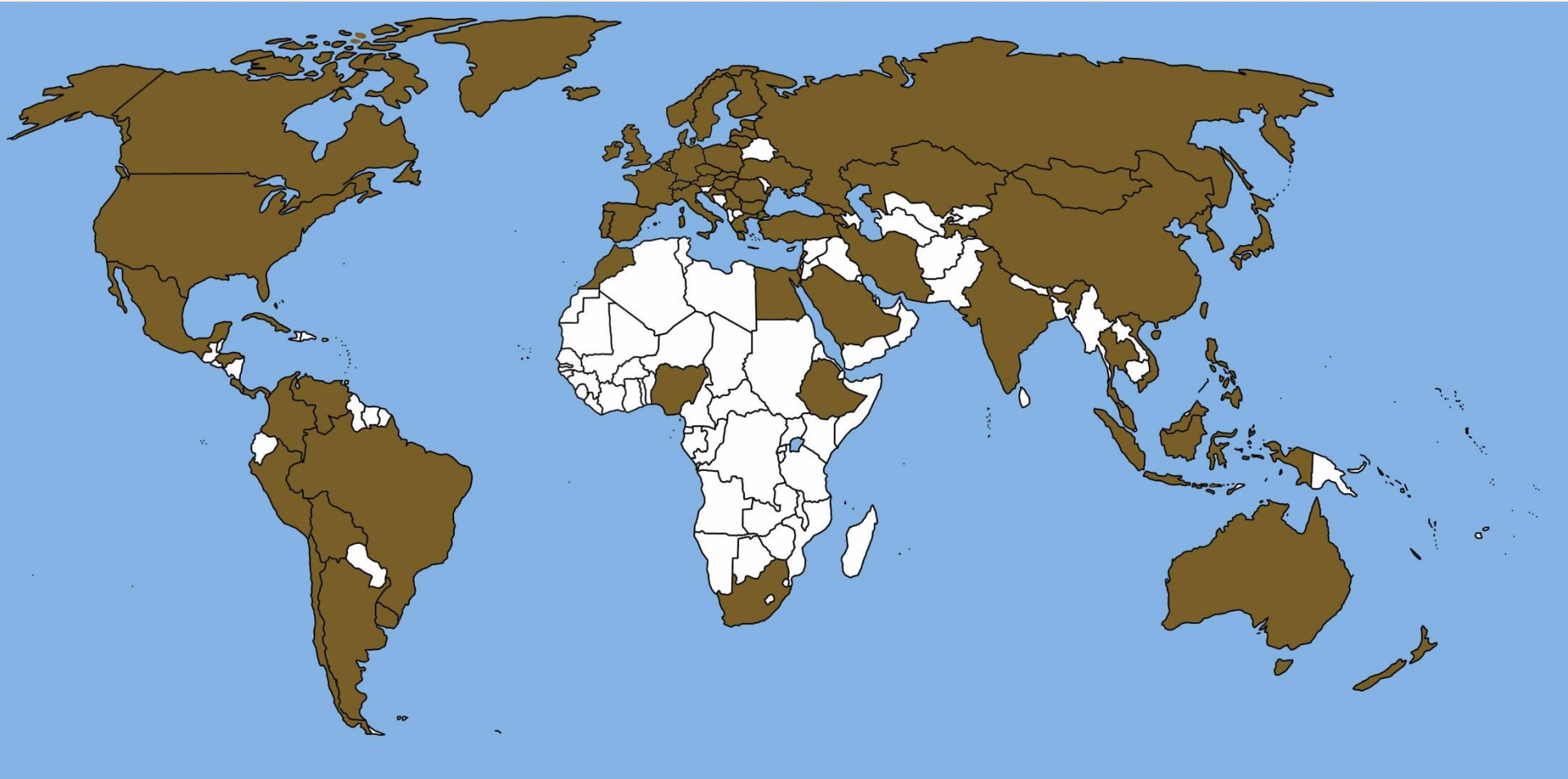


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# IAU National Members



74 National Members



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# ARMENIAN ASTRONOMICAL SOCIETY

## Հայկական Աստղագիտական Ընկերություն



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- Digitized First Byurakan Survey
- Armenian Virtual Observatory
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**IAU South West Asia  
Regional Office of Astronomy for  
Development**



**Byurakan Astrophysical Observatory  
Plate Archive Project**



**Portal to the Universe**




**International Symposium  
"Astronomical Surveys and Big Data"**




**Armenian-Iranian Astronomical  
Workshop**



**Byurakan Science Camp 2015**



**Byurakan Astrophysical Observatory**  
70



**Astrophysics - 50**



**"Viktor A. Ambartsumian's  
Descendants" Foundation**



# Armenian-Georgian collaboration



- **Viktor Ambartsumian** was born in Tbilisi
- **Research projects:** flare stars, Trapezium type systems, clusters of galaxies, late-type stars, etc.
- **Joint observations**
- **PhD studies:** R. Natsvlishvili
- **Joint publications**
- **Afz Editorial Board:** G.N. Salukvadze
- **Byurakan-Abastumani Astronomical Colloquia**
- **BISS Georgian students:** Levan Kakabadze, Bidzina Kapanadze, Davit Khutsishvili, Ia Kochiashvili, Irakli Mghebrishvili
- ISTC project on **Armenian-Georgian VO**
- Archaeoastronomy and Astronomy in Culture
- Astronomical Olympiads



# ARMENIAN ASTRONOMICAL SOCIETY

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### JOINT COLLOQUIA OF BYURAKAN AND ABASTUMANI ASTROPHYSICAL OBSERVATORIES

*(including those held in Georgia)*

Year	Dates	Place	Title	Description	Dedication	Number of	
						partic. count.	talks posters
1974		Byurakan Obs.		I Joint Colloquium of BAO and AbAO			
1976	May 11-13	Abastumani Obs.		II Joint Colloquium of BAO and AbAO			
1977		Byurakan Obs.		III Joint Colloquium of BAO and AbAO			
1978		Abastumani Obs.		IV Joint Colloquium of BAO and AbAO			
1979		Byurakan Obs.		V Joint Colloquium of BAO and AbAO			
1982		Tbilisi		VI Joint Colloquium of BAO and AbAO			
1983		Byurakan Obs.		VII Joint Colloquium of BAO and AbAO			
1984		Abastumani Obs.		VIII Joint Colloquium of BAO and AbAO			
1985		Byurakan Obs.		IX Joint Colloquium of BAO and AbAO			
1988		Byurakan Obs.		Joint Colloquium of the Department of Astrophysics of the Leningrad State University, the Astronomical Council of the USSR Acad. Sci., BAO and AbAO			
1997	Jun 17-19	Abastumani Obs.		X Joint Colloquium of BAO and AbAO		30	24
1998	Jul 6-10	Byurakan Obs.		XI Joint Colloquium of BAO and AbAO	L.V. Mirzoyan's 75 <sup>th</sup> anniversary		
1999		Abastumani Obs.		XII Joint Colloquium of BAO and AbAO			
2003	Jun 11-13	Byurakan Obs.		XIII Joint Colloquium of BAO and AbAO combined with ArAS II Annual Meeting	L.V. Mirzoyan's 80 <sup>th</sup> anniversary		>20
2013	Aug 26-28	Byurakan Obs.	Instability and evolution of stars	XIV Joint Colloquium of the Byurakan and Abastumani Astrophysical Observatories	L.V. Mirzoyan's 90 <sup>th</sup> anniversary		



# Armenian-Georgian Joint Colloquia



Armenian-Georgian astronomical colloquia have been organized since 1974 and in total 14 meetings were held, both in Byurakan and in Abastumani observatories. Each year, typically 15 astronomers from one of these countries visit the other one and scientific talks, joint discussions and friendly competitions are being held. Last meeting: 2013, Byurakan.



# Armenian-Iranian collaboration



- **Iranian-Armenian astronomers:** Alenush Terian (Mother of Iranian astronomy), Vahe Petrosian
- **Previous relations:** BISS 6 Iranian students (2010, 2012); G.T. Ter-Kazarian, A.G. Nikoghossian, et al.
- Shant Baghramian (Sharif University of Technology, Tehran): Cosmology; Aram Saharian
- **Collaboration subjects:** observations *vs.* theory; BAO 2.6m and other telescopes
- **Forms of collaboration:** ROAD, projects, visits, observations, PhD and MSc students, joint meetings
- **Participating institutes:** BAO, YSU, ICRANet, other?
- Armenian-Iranian workshop 2015
- NAS RA ISEC international PhD students
- Research subjects from BAO (for joint projects and PhD theses)



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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.



**Aims and scope.** We will establish mutual contacts, discuss and conduct joint research projects, give start to Armenian-Iranian astronomical collaboration, which will include several forms of relations:

- organization and participation in regional activities;
- collaborative research grants between Armenian and Iranian scientific groups;
- stays of Armenian scientists at Iranian institutions for joint research work;
- stays of Iranian scientists at Armenian institutions for joint research work;
- stays of young Armenian scientists for training and fulfillment of Ph.D. theses;
- stays of young Iranian scientists for training and fulfillment of Ph.D. theses;
- organization of joint meetings in frame of the collaboration;
- Buzanian International Summer Schools (BISS) with invitation of Iranian students;



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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 realise the societal benefits of astronomy.

The agreements were signed at the Hawai'i Convention Centre in Honolulu, Hawai'i, during the IAU's triennial 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



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## SWA ROAD

### ARMENIA as an IAU REGIONAL CENTRE of ASTRONOMY for DEVELOPMENT



The **International Astronomical Union** (IAU, [www.iau.org](http://www.iau.org)) is the largest body of professional astronomers in the world. In frame of IAU strategic plan, the **Office of Astronomy for Development** (OAD) in partnership with the South African National Research Foundation (NRF) has been set up. The OAD was officially opened on 16 April 2011 at the South African Astronomical Observatory (SAAO) in Cape Town, South Africa. Kevin Govender is the OAD Director. The first major workshop of stakeholders was held on 12-14 December 2011. In addition to OAD, **Regional Offices of Astronomy for Development (ROAD)** will be established for coordination of astronomy development in the whole world, as well as **Language Expertise Centres**. Since the opening of OAD, three ROADS and one Language Expertise Centre have been established, as well as OAD is planning its activities within three **Task Forces**:

- Universities and Research (TF1);
- Children and Schools (TF2);
- Public Outreach (TF3).



In 2012 the first open Call for Proposals was launched for each of the task forces and in 2014, new Calls were announced. Many astronomy centres have benefited from these activities.

Since the beginning of this initiative, Armenia has been rather active in proposing projects and submitting a proposal to host a regional office in **Southwest Asian area**. IAU found Armenia's proposal rather strong and justified, however only recently Armenia has been selected to coordinate IAU Astronomy for Development activities in this region. Armenia and particularly Byurakan Astrophysical Observatory (BAO) is a reliable centre for astronomy development in the Southwest Asia region, involving the South Caucasus countries (Armenia, Georgia and Azerbaijan), Iran, Turkey and Israel, where efforts are being made to develop astronomy (Arabic countries develop their own project for a similar centre). In addition, in frame of the European Eastern Partnership program, Armenia will play a role of the link between Europe and Eastern countries. Central Asian countries (former USSR republics) Kazakhstan, Uzbekistan and Tajikistan may also join.



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## STEERING COMMITTEE



**Kevin Govender**

Director,  
IAU OAD,  
South Africa



**Haik Harutyunian**

Director,  
Byurakan Astrophysical Observatory,  
Armenia  
*Chair*



**Awni Khasawneh**

Secretary General,  
Arab Union for Astronomy and Space Sciences,  
Jordan



**Habib Khosroshahi**

Head,  
School of Astronomy, IPM,  
Iran



**Radik Martirosyan**

President,  
National Academy of Sciences,  
Armenia



**Maya Todua**

Director,  
Georgian National Observatory,  
Georgia



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- Astronomy in Armenia
- Astronomy in Georgia
- Astronomy in Iran
- SWA Astronomical Organizations
- SWA Astronomical Journals
- SWA Astronomers
- Astronomical Olympiads

## Archaeoastronomy

Astronomy in Iran... transformed Babylonian... Babylonian books into... around 964. In 13th c... Islamic world. It had a key role in the development of sophisticated pre-Copernican non-Ptolemaic systems for explaining the planetary motions, and it was the model for several observatories that were built in Persia, Transoxiana, and Asia Minor up to the 17th century.

## ASTRONOMY IN IRAN

...go. When Cyrus the Great, the founder of the Persian Empire, captured Babylon in 539 B.C., magi who migrated there... record planetary motion through constellations. In turn magi learned from the Babylonian astronomers as well and translated... a galaxy was first identified by a Persian astronomer Abd al-Rahman al-Sufi calling it a little cloud in his book of fixed stars... unique place in the history of medieval astronomy, was established, representing a new wave of scientific activities in the... It had a key role in the development of sophisticated pre-Copernican non-Ptolemaic systems for explaining the planetary motions, and it was the model for several observatories that were built in Persia, Transoxiana, and Asia Minor up to the 17th century.

عظمت باز یافته رصدخانه قدیمی مراغه ( طرح جدید )



## Iranian astronomy today

Research in Astronomy and Astrophysics has been conducted in a number of universities in Iran. There are two dedicated research institutes in Iran, [IPM School of Astronomy](#) in Tehran and [Research Institute for Astronomy and Astrophysics in Maragheh \(RIAAM\)](#). Among the most active universities in astronomy one could name [IASBS](#) in Zanjan, [Ferdowsi University of Mashhad \(FUM\)](#), [University of Tabriz](#), [Shiraz](#), [Birjand](#), [Kerman](#) and [Zanjan](#) universities, and [Amirkabir University of Technology](#) and [Sharif University of Technology](#), both in Tehran. [The Iranian Astronomical Society of Iran \(ASI\)](#) is a non-governmental organization that represents the Iranian community of astronomy internationally and organizes training workshops throughout the year. Iranian astronomers gather twice a year to...



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## SWA ASTRONOMICAL ORGANIZATIONS

### Astronomical Societies

 [Armenian Astronomical Society \(ArAS\)](#)

 [Astronomical Society of Georgia \(ASG\)](#)

 [Astronomical Society of Iran \(ASI\)](#)

### Astronomical Observatories

 [Byurakan Astrophysical Observatory \(BAO\)](#)

 [Abastumani Astrophysical Observatory \(AbAO\)](#)

### Universities

 [Yerevan State University \(YSU\)](#)

 [Ilia State University, Tbilisi](#)

 [Ferdowsi University of Mashhad \(FUM\)](#)

 [University of Tabriz](#)

 [University of Shiraz](#)

 [University of Birjand](#)





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## SWA ASTRONOMICAL JOURNALS



[Astrofizika \(Afz\) / Astrophysics \(Ap\), Armenia, since 1965](#)



[Iranian Journal of Astronomy and Astrophysics \(IJAA\), Iran, since 2013](#)



[Bulletin of Abastumani Astronomical Observatory, Georgia](#)



[Communications of Byurakan Astrophysical Observatory \(Com. BAO\), Armenia, 1946-1991](#)



[ArAS Newsletter \(ArASNews\), Armenia, since 2002](#)



[Astghagitak E-journal, Armenia, since 2013](#)



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- Portuguese Language Centre
- IAU OAO



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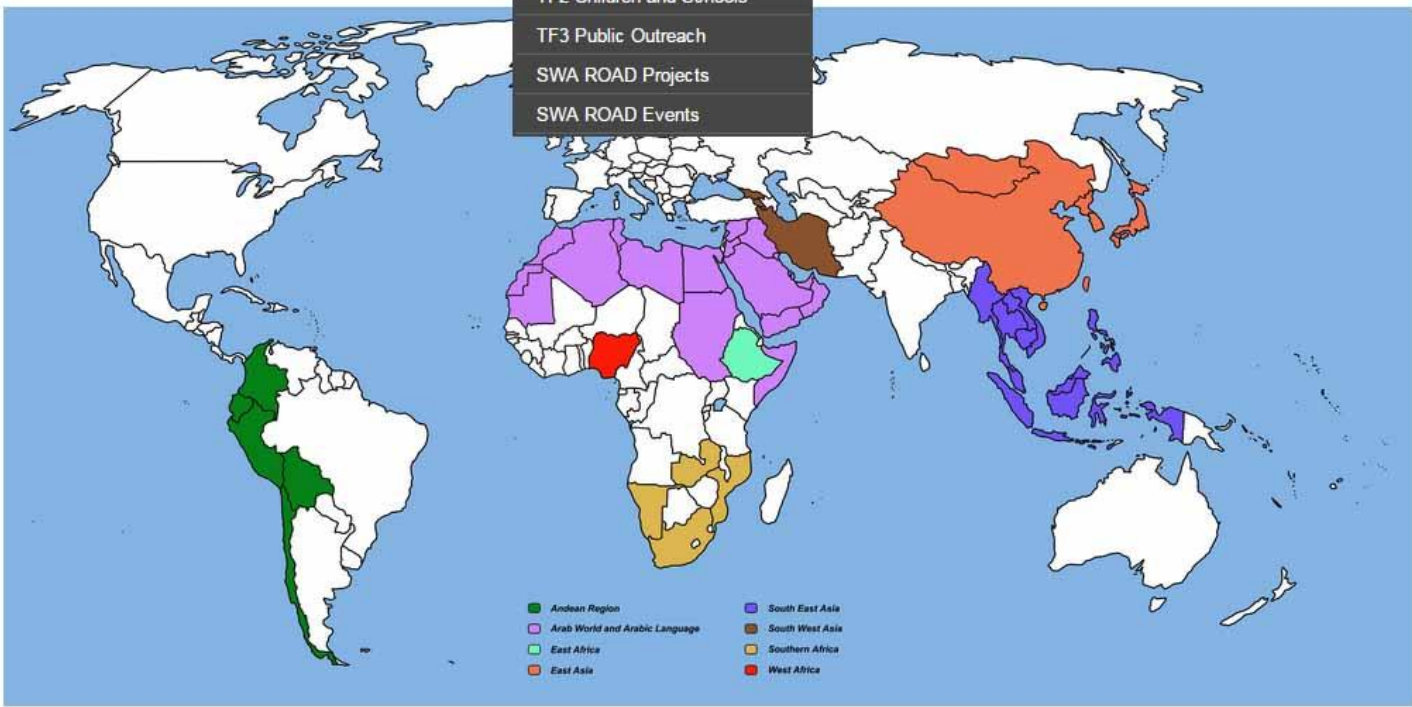


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- TF1 Universities and Research
- TF2 Children and Schools
- TF3 Public Outreach
- SWA ROAD Projects
- SWA ROAD Events



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## PROJECTS

### Multilingual Astronomy Portal (MAP)



Multilingual Public Astronomy Portal is a great guide for the public interested in astronomy from all over the world. Through this webpage we draw a link between science and public and by this promoting informal education. Here you can simply navigate in 40 main landing pages and find the core links that you need. This is a unique webpage covering all the information related to all the spheres of public astronomy in 24 languages by this we involve public from all the corners of the world, as well as the webpage serves as a portal to astronomy for the South West Asian regional countries. Our team especially emphasizes the involvement of modern communication methods, such as forums, social networks, blogs, etc. Here the educational pages are also heavily involved. This webpage also supports IAU Division C activities ("Education, Outreach and Heritage"). Webpage menus fit its Commissions and Working Groups subjects and aims.

#### Cosmic Objects

- Exoplanets
- Galaxies and Cosmology
- Planets and Asteroids
- Comets
- Meteors and Meteorites
- Nebulae
- Stars
- Stellar Clusters
- Sun and Solar Physics

#### Data and Tools

- Archives, Databases, Catalogs
- Astro Calculators, Astro Tools, VO tools
- Astrophysics, Radiation
- Astrostatistics and Astroinformatics, Laboratory Astrophysics
- Celestial Sphere, Constellations
- Instrumentation
- Multiwavelength Astronomy
- Practical Astronomy

#### Education and Outreach

- Astronomical News
- Astronomy and other sciences
- Astronomy and society
- Astro Courses
- Dictionary, Glossary, Thesaurus, Keywords
- Education
- Popular Astronomy, Amateur Astronomy
- Practical importance of Astronomy
- Women in Astronomy

#### Astronomical Heritage

- Astronomical Heritage
- Cultural Astronomy
- History of Astronomy, Archaeoastronomy
- Light Pollution
- Time, Calendar, Chronology

#### Astronomy for Fun

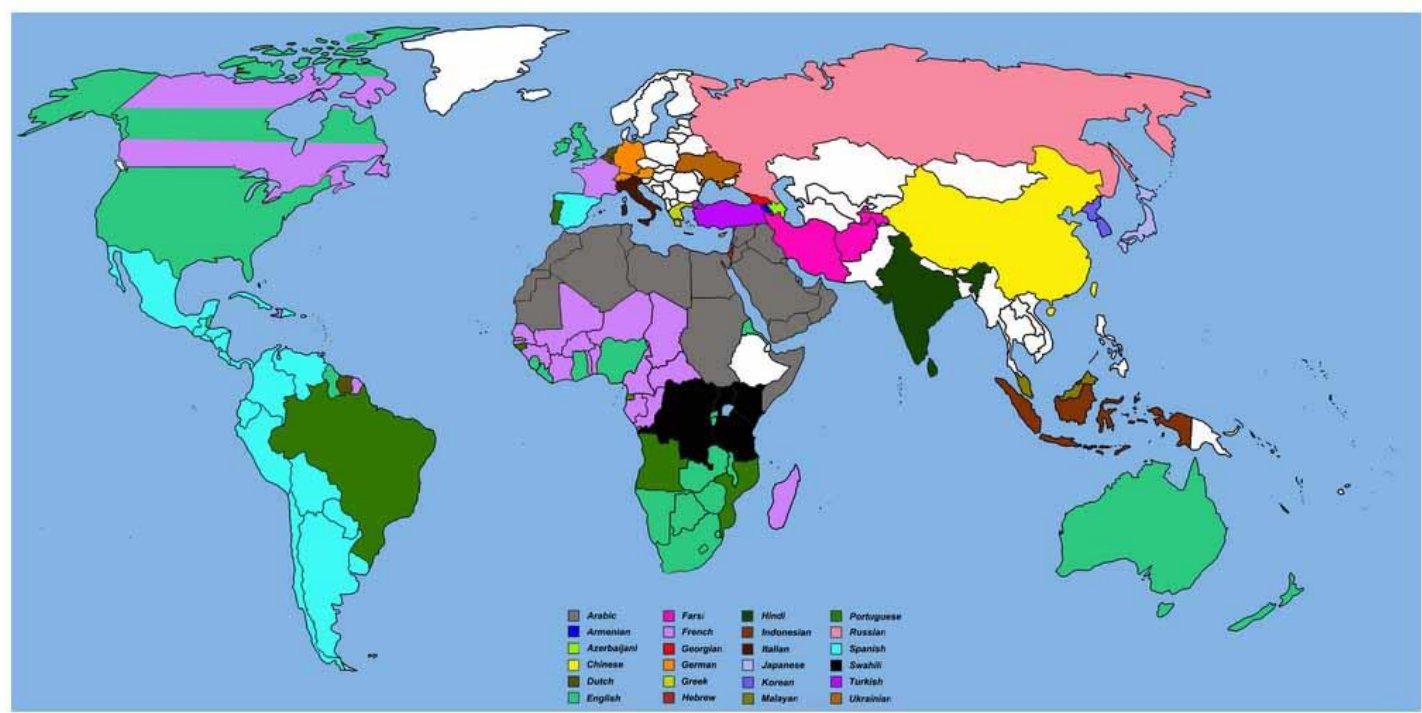
- Multiwavelength Astronomy
- Practical Astronomy
- Sky images, Sky maps
- Software
- Space Exploration
- Surveys and Projects
- Telescopes (Optical/NIR, Solar, Radio, γ-ray, Space Missions)
- VO projects

### Astronomy for Fun

- Astro Browsers
- Astro Shops
- Forums
- Games and Fun
- Photo and Video Gallery

### World Astronomy

- Astronomers, Biographies
- Astronomical Institutes, Observatories, University Departments
- Awards, prizes, grants
- Jobs and Fellowships
- Journals, Preprints, Abstracts, Books
- Meetings, Schools, Seminars
- Organizations and Societies (Unions, Societies, Space Agencies, Foundations)





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## SWA ROAD EVENTS



### IAU OAD / SWA ROAD Workshop 12-13 October 2015, Byurakan, Armenia

A regional astronomical meeting with representatives from Armenia, Georgia, Iran, Israel, Jordan, Russia, and Turkey will take place in Byurakan, Armenia and will be dedicated to the official Inauguration Ceremony of IAU SWA ROAD. This will be the first face to face workshop of SWA ROAD and will aim to set the agenda for its future activities. During the Armenian-Iranian Astronomical Workshop on 14-16 October there will be an opportunity to visit various facilities that will be part of the ROAD and available to the region, as well as various side meetings with the delegates. [more...](#)



### IAU SWA ROAD Inauguration Ceremony 13 Oct 2015, Byurakan, Armenia

The official Inauguration Ceremony of IAU South West Asian Regional Office of Astronomy for Development will take place in Byurakan Astrophysical Observatory (BAO) with participation of IAU and Armenian officials, ambassadors of foreign countries and representatives of international organizations in Armenia, Armenian scientific, educational and cultural community and others. [less...](#)

### IAU SWA ROAD Inauguration Ceremony *13 October 2015, Byurakan, Armenia*

#### PROGRAM

#### 18:00-19:00 Welcome Addresses

- Radik Martirosyan**, President of National Academy of Sciences of RA
- Armen Ashotyan**, Minister of Education and Science of RA
- Piero Benvenuti**, IAU General Secretary

### ՄԱՄ ՀԱԱ ԱԶՏԳ բացման արարողություն *13 հոկտեմբեր 2015թ. Բյուրական, Հայաստան*

#### ԾՐԱԳԻՐ

#### 18:00-19:00 Ողջույնի ելույթներ

- Ռադիկ Մարտիրոսյան**, ՀՀ Գիտությունների ազգային ակադեմիայի նախագահ
- Արմեն Աշոտյան**, ՀՀ Կրթության և գիտության նախարար
- Պիերո Բենվենուտի**, ՄԱՄ գլխավոր քարտուղար

# 2015 October events

## **Astronomical Surveys and Big Data (ASBD), 5-8.10.2015**

28 Armenian and 16 foreign participants, 18 invited talks, 10 contributed talks and 8 posters.  
IVOA, IPDA, VO Project Managers, et al.

## **OAD/ROADs meeting, 13.10.2015**

IAU Officers: GA Piero Benvenuti, IAU Strategic Plan 2010-2020 Coordinator George Miley,  
OAD Director Kevin Govender  
Regional representatives: Armenia, Georgia, Iran, Israel, Jordan, Russia, Turkey.

## **IAU SWA ROAD Inauguration Ceremony, 13.10.2015**

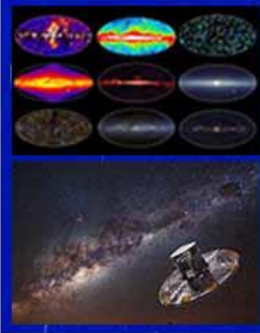
BAO staff, NAS RA Presidium, NAS RA Institutions Directors, Foreign Ambassadors in  
Armenia, representatives of international organizations in Armenia, universities, creative unions,  
foreign guests (IAU Officers, Regional representatives, Iranians).

## **Armenian-Iranian Astronomical Workshop (AIAW), 13-16.10.2015**

28 Armenian, 14 Iranian, 1 Georgian and 1 Jordanian participants, 17 invited talks, 22  
contributed talks and 3 posters.

## **Second Byurakan Science Camp (2BSC), 25-31.10.2015**

20-25 pupils of 12-15 age from special and secondary schools.



# ASTRONOMICAL SURVEYS and BIG DATA

International Symposium,  
dedicated to 50<sup>th</sup> anniversary of Markarian Survey  
and 10<sup>th</sup> anniversary of Armenian Virtual Observatory

5-8 October 2015, Byurakan, Armenia



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Astronomical surveys are the main source for discovery of astronomical objects and accumulation of observational data for further analysis, interpretation, and achieving scientific results. In 1940s-1950s Palomar Observatory Sky Survey (POSS, at present digitized as DSS1) gave more data than it was collected during the whole epoch of astronomical observations before. Similarly, Markarian Survey (or the First Byurakan Survey, FBS) was the first large-area spectroscopic survey resulting at low-dispersion spectra of 20,000,000 objects. Later on, many all-sky or large-area surveys appeared (POSS2 (DSS2), SDSS, etc.). Sloan Digital Sky Survey (SDSS) so far has provided the largest database (both photometric and spectroscopic) and SDSS-based virtual sky may be explored for new discoveries. CALIFA gives a new large set of spectra. Gaia and LSST are the next source for vast amount of information. Modern multiwavelength surveys include GOODS, COSMOS, GAMA, and others. The large amount of data requires new approaches to data reduction, management and analysis. We now deal with Big Data. Powerful computer technologies are required, including clusters and grids. Virtual Observatories (VOs) have been created to coordinate astronomers' and computer scientists' actions and help in accomplishment of complex research programs using all the accumulated data. International Virtual Observatory Alliance (IVOA) unifies 20 VO projects for joint efforts toward handling of Big Data and creation of an environment for more efficient research. The International Council of Scientific Unions (ICSU) has recently created World Data System (WDS) to unify data coming from different science fields for further possibility of exchange and new science projects.

A meeting "Astronomical Surveys and Big Data" dedicated to 50<sup>th</sup> anniversary of Markarian Survey and 10<sup>th</sup> anniversary of the Armenian Virtual Observatory (ArVO) will be held on Oct 5-8, 2015 in Byurakan, Armenia. We intend to combine astronomers and computer scientists with heavy involvement of astronomical surveys, catalogs, archives, databases and VOs.

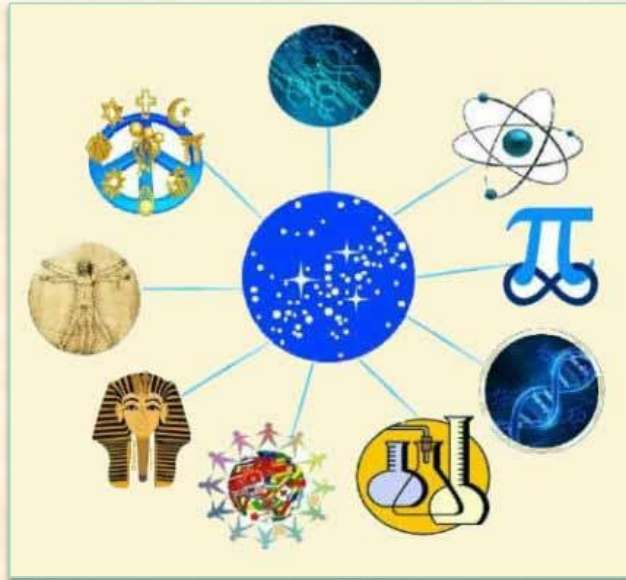
Our meeting will contribute to the following:

- Review and discuss large astronomical surveys to summarize observational data obtained in astronomy
- Give tribute to Markarian Survey and other important surveys
- Review and discuss astronomical catalogues, databases and archives
- Learn about major upcoming surveys (including PanSTARRS, Gaia, and LSST)
- Learn and discuss how large observational data sets are changing astronomy
- Introduce tools and techniques for working with large data sets (including access, analysis, and visualization)
- Discuss the future of astronomical research by joint efforts of astronomers and computer scientists

The Symposium is dedicated to Markarian Survey 50<sup>th</sup> anniversary. Benyamin Markarian (1913-1985) was the first to conduct and accomplish a large area (17,000 sq. deg.) spectroscopic survey in 1965 to search for active galaxies



# Meeting *“Relation of Astronomy to Other Sciences, Culture and Society”*, 7-10 Oct 2014, Byurakan



- Astronomical heritage
- Ancient astronomy
- Astronomy in the Middle Ages
- Astronomy in ancient cultures
- Ethnoastronomy
- Astronomical and Philosophy
- Religion and Astronomy

- Extraterrestrial Intelligence
- Solar activity and global warming
- Astronomy and Astrology
- Practical use of Astronomy
- Astroinformatics and Astrostatistics
- Astronomy and Space Flights
- Astronomy in Folklore and Poetry
- Astronomy in Arts
- Astronomy in Fashion
- Astrolinguistics and Astroheraldry
- Scientific Tourism
- Scientific Journalism
- Amateur Astronomy
- Astronomical Education
- Popular Astronomy



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21/08/2015  
**Հայաստանը պաշտոնապես ճանաչվեց տարածաշրջանային աստղագիտական կենտրոն**

Համաձայնագրերը ստորագրվեցին Հնուրուրում, Հավայան կղզիներում, ՄԱՄ-ի եռամսյա գլխավոր ասամբլեայի ժամանակ: Հինգ նոր գրասենյակները կկատարեն երկու կարևոր գործառնություն: Տարածաշրջանային գրասենյակները կհամակարգեն աստղագիտության զարգացման գործունեությունը հարևան երկրներում, մինչդեռ լեզվի փոքրագիտական... [Գարդալ ավելին](http://www.168.am)



21/08/2015  
**Հայաստանը պաշտոնապես ճանաչվեց տարածաշրջանային աստղագիտական կենտրոն**

Միջազգային աստղագիտական միության (ՄԱՄ) պաշտոնական մամուլի հաղորդագրությունը հայտնում է, որ ՄԱՄ «Աստղագիտությունը զարգացման համար» կենտրոնը հիմնել է համակարգման նոր գրասենյակներ Հայաստանում, Կույունիսթանում, Հորդանանում, Նիգերիայում և Պորտոգալիայում... [Գարդալ ավելին](http://www.slaq.am)



08/07/2015  
**Գիտական լուծում՝ քաղաքական հարցերին. Հայաստանը ճանաչվել է՝ որպես տարածաշրջանային աստղագիտական կենտրոն**

«Քանի որ մենք գտնվում ենք կոնֆլիկտային տարածաշրջանում, հարևան երկրներից չէին համաձայնում աջակցության նամակ տրամադրել, որը ՄԱՄ-ի պարտադիր պայմաններից էր: Ի վերջո, Վրաստանից և Իրանից ստացանք այդ համաձայնության նամակները... [Գարդալ ավելին](http://www.168.am)



08/07/2015  
**«Հեշտ չէր Հայաստանը տարածաշրջանային աստղագիտական կենտրոն հռչակելը». Արեգ Միքայելյան**



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- IYA-2009
- IYL-2015
- DFBS
- Armenian Virtual Observatory



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 realise the societal benefits of astronomy.

The agreements were signed at the Hawai'i Convention Centre in Honolulu, Hawai'i, during the IAU's triennial 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 Medellin (Colombia), and Sociedad Chilena de Astronomia (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.

# Activities

- ✓ **IAU/BAO Agreement**
- ✓ **Establishment of the Office**
- ✓ **Staff members**
- ✓ **SWA Regional Steering Committee**
- ✓ **Webpage**
- ✓ **IAU OAD / SWA ROAD Workshop**
- ✓ **Inauguration Ceremony**
- ✓ **Negotiations with more regional countries**
- ✓ **Publication of promotional materials**
- ✓ **Study of IAU Strategic Plan 2010-2020 OAD**
- ✓ **Study of 7 other ROADs reports**
- ✓ **Study of OAD 68 successful proposals**
- ✓ **TF1/TF2/TF3: Regional research, educational and public projects**
- ✓ **TF1/TF2: Regional VO network (including educational one)**
- ✓ **TF1/TF2: Organization of meetings and summer/winter schools**
- ✓ **TF2/TF3: Organization of camps, school and public lectures**
- ✓ **TF3: Organization of other public events**
- ✓ **TF3: Regional scientific tourism and scientific journalism**
- ✓ **Astronomy as part of interdisciplinary and multidisciplinary science**
- ✓ **Archaeoastronomy and Astronomy in Culture (AAC), Astronomical heritage**
- ✓ **Fundraising**
- ✓ **IAU OAD/ROADs Common Plan 2016-2021**



# IAU SWA and Arab ROADs collaboration

- **Collaboration in frame of OAD/ROADs**
- **Research projects**
- **Joint observations**
- **Mutual visits, exchange of personnel**
- **PhD studies:** Awni Khassawneh
- **Joint publications**
- **Regional meetings and workshops**
- **Regional summer/winter schools**
- **BISS Arab students:** Mahmoud Mohamed (Egypt), Awni Khassawneh, Ali Taani, Hani Dalee, Ahlam Farhan (Jordan)
- **Archaeoastronomy and Astronomy in Culture**
- **Regional Astronomical Olympiads**



أشكر لك إهتمامك!

Thank you for attention!