



Issue 141/ May 2021

ARMENIAN ASTRONOMICAL SOCIETY

ArAS Newsletter



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LOCAL NEWS

ArASNews NEW EDITOR and 2021 PLANS

In 2021, ArAS has restarted the electronic publications of its [Electronic Newsletter \(ArASNews\)](#) with a number of novelties:

- we have a **new Editor, Meline Asryan,**
- our **mailing list has been revised and updated** with more organizations and societies' addresses,
- the Newsletter has a **new design,**
- the periodicity is the same, **12 issues annually,** 1 issue at the end of each month,
- we have **permanent sections,** such as *BAO News, Research Articles, Scientific Meetings, Awards, Astronomical Education and Outreach, Anniversaries, Forthcoming Events,* etc.,
- we encourage more **science articles, typically review articles on research projects,** etc.,
- [ArASNews Reference List](#) will be updated with access to all previous articles,
- now it is possible to **subscribe to ArASNews through its webpage** (<https://www.aras.am/ArasNews/arasnews.html>).



Meline Asryan

We are pleased to introduce **Meline Asryan** as the new Editor of ArASNews starting with this issue (#141). Already in 2019-2020, she helped in preparation and release of our Newsletters and contributed a lot in [BAO press-releases](#) distributed to Armenian mass-media. In addition, she is an expert in English and she is interested in **Astronomy in Culture** and **Astrolinguistics** (Astronomical Terminology), which could be one of ArAS new areas of activities, together with Archaeoastronomy, Amateur Astronomy, Astronomical

Education and Public Outreach. Meline has graduated from [Yerevan Brusov State University of Languages and Social Sciences](#) and received her M.Sc. degree in 2020. Since 2019, she works at BAO. She has participated in ArAS School Lectures program and many events organized in Byurakan. She has been the language editor of several astronomical publications and BAO webpage. In 2019-2020 Meline (together with Sona Farmanyan and Diana Arzumanyan) conducted courses of English speaking language for BAO staff members and

thus served as a lecturer as well. Meline has enough experience for further successful work and we wish her good luck in this very important initiative to distribute news about Armenian astronomy to astronomers and astronomical organizations.

We would like to thank **Sona Farmanyán** for her tremendous work as **ArASNews Editor** during 2015-2020, as well as all **previous ArASNews Editors**:

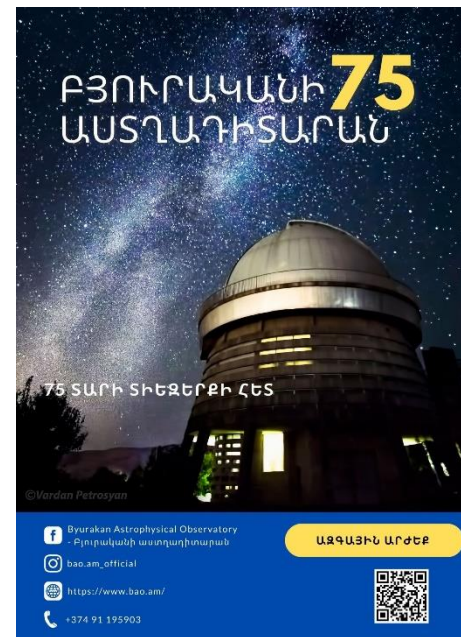
Editors	Years	Issues
Tigran Magakian	2002-2004	1-12
Lusine Sargsyan	2005	13-16
Lilit Hovhannisyan	2006-2007	17-24
Areg Mickaelian	2008-2014	25-76
Sona Farmanyán	2015-2020	77-136

Areg Mickaelian, ArAS Acting President

The Byurakan Astrophysical Observatory Celebrates Its 75th Anniversary

This year we commemorate the Byurakan Astrophysical Observatory's (BAO) 75th anniversary. In this regard, various events and initiatives are organized by BAO throughout the whole year. They include not only scientific, but also educational and popular events and aim to highlight not only BAO's past and present achievements, but also future initiatives. Find some of the events listed below:

- The 7th Byurakan Science Camp (7BSC)
- The Second Regional Astronomical Summer School (2RASS)
- The 16th Ambartsumian Readings
- International Conference - “Astronomy in the Crossroads of Interdisciplinary and Multidisciplinary Sciences”, dedicated to the 75th Anniversary of the Byurakan Astrophysical Observatory (BAO-75)
- Etc..



BAO Poster

For more events: <https://www.bao.am/activities/events/2021/2021.php>

The modern astronomy in Armenia begins with the foundation of BAO, one of the most important astronomical centers in Eastern Europe and Middle East region. It was founded in 1946 on the initiative of Viktor Ambartsumian, the famous Armenian scientist of the 20th century, and was named in his honour in 1998.

Let 2021 be the year of science!

Meline Asryan

“FROM SCHOOL TO SPACE”

ArAS School Lectures Program 2021

On May 15, the one-month long School Lectures program 2021 “From School to Space” organized by Armenian Astronomical Society (ArAS) and the Byurakan Astrophysical Observatory (BAO) came to its end.

We are happy to note, that in spite of the obstacles of the present time, the program received a great response among the regional schools.

This year BAO astronomers visited 30 schools of different regions, namely, Ararat, Armavir, Gegharkunik, Lori, Kotayq, Shirak and Tavush. Among the lecturers were the Director of BAO

Areg Mickaelian, Senior Research Associate Ruben Andreasyan and Junior Research Associate Naira Azatyan. During the visits, astronomers distributed popular astronomy materials to schools and schoolchildren (books, etc.). Some schools received telescopes as well.



Areg Mickaelian Lecturing at School

ArAS School Lectures program was initiated by the ArAS Co-President Prof. Yervant Terzian (Cornell University, N.Y., USA) to promote astronomy in the Armenian schools and facilitate interaction with professional astronomers. Typically, once in a year starting from 2012, professional astronomers visit 25-30 schools and deliver lectures on hot topics of astronomy, achievements of the Armenian astronomy, activities of the Byurakan Astrophysical Observatory, etc.

The mission also aims at revealing talented children especially in remote provinces to maintain with them further contacts. Once, in 2013, the program was organized in Artsakh schools. So far 230 schools became participants of this program.

The lecture program is implemented with the support of the Fund for Armenian Relief (FAR).

ANSEF Award Ceremony 2021



ANSEF Award Ceremony 2021

The Armenian National Science and Education Fund (ANSEF) award ceremony took place on 21 May.

This year ANSEF Executive Board received 169 proposals of which the referees identified 56 meritorious ones. After ranking those 56, and based on availability of funds, 28 awards were selected.

It should be noted that *3 out of 28 awards were received for astronomical works:*

1. “Discovery and Study of New White Dwarfs Using Gaia Accurate Astrometry” - Areg Mickaelian, the Director of the Byurakan Astrophysical Observatory
2. “The Origin of the Runaway Stars in Vel OB1 Association” - Naira Azatyan, Junior Research Associate at the Byurakan Astrophysical Observatory,
3. “Broadband Study of Blazars: Data Analysis and Modeling” - Sargis Gasparyan, Icranet Center International Organization, NAS.

ANSEF, operating under the auspices of the Fund for Armenian Relief (FAR), provides financial and other material resources to support scientific research, advanced technology development and scholarly work in the Republic of Armenia.

New Armenian OAO NOC and Co-NOC ANNOUNCED

On 28 May new NOC and Co-NOC of Armenia were appointed for the IAU Office for Astronomy Outreach (OAO). Sona Farmanyany, Junior Research Associate at BAO, former NOC of OAO and Lilit Darbinyan will join the big team to encourage active communication of science through public engagement, professional-amateur, and citizen science activities in Armenia.



Left: Sona Farmanyany. Right: Lilit Darbinyan

OAO is a joint project of the International Astronomical Union (IAU) and the National Astronomical Observatory of Japan (NAOJ), under the auspices of the National Institutes of Natural Sciences (NINS) of Japan. The office is based in Tokyo, at the NAOJ Mitaka Campus. The mission of the OAO is to engage the public in astronomy through access to astronomical information and communication of the science of astronomy. This is implemented through a network of IAU National Outreach Coordinators (NOCs) and the IAU's engagement initiatives with the public.

The work of the OAO is about building bridges between the IAU and the global astronomy community of amateur astronomers, outreach practitioners, educators, communicators, and the general public, and through international collaboration, to make the science of astronomy accessible to all.

Communicating Astronomy with the Public 2021 - VIRTUAL MEETING



On 24-27 May, 2021, the ninth Communicating Astronomy with the Public Conference (CAP) 2021 and the first virtual one ever #VirtualCAP2021 opened its broadcast: <https://www.communicatingastronomy.org/cap2021/>.

This was the largest CAP Conference ever with over 1200 registered participants from 84 countries, including Armenia. For the first time in its history, it was organized virtually because of the pandemic.

The participants from Armenia were Areg Mickaelian, the Director of BAO, and Armine Patatanyan.

The conference lasted four days, with each day being scheduled in a different timezone to allow the global CAP community to participate at a time suitable to them.

Cooperation Agreement Between the Byurakan Astrophysical Observatory and YSU Observatory

On 17 May, a cooperation agreement between the Byurakan Astrophysical Observatory and the YSU Observatory was signed, for a period of 5 years.



Top: BAO Observatory. Bottom: YSU Observatory

According to the agreement, both observatories will implement various specialised scientific and educational events in order to develop practical skills of the YSU students from Physics department and have qualified professionals in the future, as well as to modernise and replenish the observation and laboratory equipment of the YSU Observatory.

Within the framework of this cooperation, it is intended to establish a science museum, a planetarium and a scientific library

at the YSU Observatory. Moreover, this will encompass the development of scientific tourism in Armenia.

It should be noted, that BAO is considered a pioneer of scientific tourism initiative in Armenia, it has been implementing an international astronomical tourism project aimed at the South-West and Central Asia region for many years.

The mentioned agreement was one of the first activities that followed the reopening of the YSU Observatory which took place after its renovation on 12 May, 2021.

A 40-YEAR JOURNEY

A Seminar by Nobel Prize Winner Reinhard Genzel at the Byurakan Astrophysical Observatory

On 6 May, Nobel Prize Winner Reinhard Genzel from Max Planck Institute for Extraterrestrial Physics (Germany) held a virtual seminar for BAO researchers. The event was organized within a series of seminars launched by BAO in 2021. These are scientific, review, technical, report and informational seminars of not only BAO but also scientists of other institutions held on every Monday and Thursday.

In his report entitled “A 40-Year Journey” Reinhard Genzel presented the forty-year journey, which his colleagues and he have been undertaking to study the mass distribution in the Center of our Milky Way from even more precise, long term studies of the motions of gas and stars as test particles of the space time.

At the seminar the speaker also pointed out that those studies showed the existence of a four million solar mass object, which must be a single massive black hole, beyond any reasonable doubt.

Learn more about BAO Seminars by visiting <https://www.bao.am/seminars/index.php>

To be a speaker at BAO seminars fill the application form: <https://www.bao.am/seminars/form/application.php>. Note, the title and the abstract should be presented at least a week prior to the seminar.

The screenshot displays a virtual seminar interface. At the top, a navigation bar lists participants: Meline Asryan, Reinhard Genzel (the active speaker), Arus Harutyunyan, Elena Nikoghosyan, and Gagik Tovmasian. The main content area is titled "Phase 3: Stellar Orbits (2002-2017)". It features a central image of a star field with a blue elliptical orbit around a central point. A speedometer in the bottom left corner shows a velocity of 2023.9 km/s, which is 2484744.91 km/h or 0.23% of the speed of light. On the right side, there are two plots. The top plot shows the orbit of SgrA* with data points from 1992 to 2018. The bottom plot shows the radial velocity curve for S2/S02 with parameters: P=15.9 y, R_{peri}=1400 R_{sun} (17 lh), and β_{peri}=0.03. The interface includes a top navigation bar with names like Meline Asryan, Arus Harutyunyan, Elena Nikoghosyan, and Gagik Tovmasian, and a bottom control bar with icons for Participants, Share Screen, Chat, and More.

Snapshot of the virtual seminar by Reinhard Genzel

HISTORY PAGES

The 55th Anniversary of IAU First Symposium at BAO

55 years ago, IAU Symposium #29 “Non-Stable Phenomena in Galaxies” was held at the Byurakan Astrophysical Observatory. This was the first IAU Symposium, held in Byurakan. Its subjects were limited to non-stable phenomena of large scale, which have significance for the properties of galaxies as a whole. The main attention was spared to the observational data, their comparison and systematization. Radio galaxies and recently discovered quasars were mainly in the centre of attention at the Symposium.



Viktor Ambartsumian and the Participants of the IAU Symposium #29, 1966.

Scientific organizing committee (SOC): V.A. Ambartsumian (Chairman, Armenia), E.M. Burbidge (USA), B.A. Vorontsov-Velyaminov (Russia), J. Lequeux (France), A.R. Sandage (USA).

Local Organizing Committee:

Scientific topics:

1. The Nuclei of Galaxies, their Nature and Forms of Activity
2. Radiogalaxies
3. Quasi-Stellar Radio Sources. Optical Quasi-Stellar Objects
4. Chief Optical Features (Arms, Bars, Filaments) and the Instability. Interacting Galaxies

The symposium aroused a great interest in the scientific circles of all over the world. 67 astronomers participated in the symposium, 31 of them – scientists of 11 foreign countries (USA, UK, France, Italy, Mexico, Holland, Argentina, Sweden, GDR, Hungary, and Norway). Among them there were such distinguished scientists, as J. Oort (Holland), E.M. Burbidge, G.R. Burbidge, F. Zwicky, C.R. Lynds, D.S. Heeschen, G. Munch, and K.I. Kellermann (USA), J. Lequeux (France), L. Rosino (Italy), V.V. Sobolev, I.S. Shklovsky, Y.B. Zeldovich, V.L. Ginzburg, A.B. Severny, B.A. Vorontsov-Velyaminov, N.S. Kardashev, Y.N. Pariisky (USSR), and others. 17 of 36 Soviet scientists were from the Byurakan Observatory, presenting 7 reports at the Symposium. Altogether 54 reports were presented, including 5 invited review talks by V.A. Ambartsumian, J. Lequeux, R.L. Minkowski, M. Schmidt, and B.A. Vorontsov-Velyaminov.

60 Years of 1m Schmidt Telescope Inauguration

In 1961, 60 years ago on 8 May, the opening ceremony of 1m Schmidt telescope took place in the Byurakan Astrophysical Observatory. That was a huge event for Armenia, as the First Secretary of the Communist Party of the Soviet Union Nikita Khrushchev himself was present at the opening ceremony and had the honour to cut the red ribbon. Among the attendees of the inauguration were Marshal Baghramyan, heads of the government and Communist Party. The guests were welcomed by Viktor Ambartsumian and vice-presidents of the Academy of Sciences.



Left: Nikita Khrushchev. Right: Viktor Ambartsumian. BAO.

In fact, the telescope was installed in 1960, however, the final construction works were just completed and it was a perfect timing for the grand opening.

Apart from the above-mentioned guests, different representatives, academicians and engineers of various fields of Armenian science were present at the inauguration. The opening ceremony was followed by a meeting.

You can find more about this historical fact in the “Soviet literature” journal’s 9th issue of 1961, article titled “The Eye of Byurakan” by Ashot Arzumanyan.

It should be noted that, at the time this Schmidt telescope was the second in the world by size. Nowadays, it works automatically and since 2015 new scientific projects have been carried out with it.

Meline Asryan

ANNIVERSARIES

Radik Martirosyan's 85th Anniversary

Prof. Radik Martirosyan, an Armenian well-known radiophysicist, celebrated his 85th anniversary on 1 May.

Radik Martirosyan was born on 01.05.1936 in v. Mataghis, Martakert province, Artsakh. He graduated from the YSU Radiophysics Department in 1958. His first interest in science was astrophysics, particularly radio astronomy. However, he took postgraduate fellowship at the USSR Academy of Sciences P.N. Lebedev Institute of Physics under the supervision of the Nobel Prize Winner acad. A.S. Prokhorov and in 1964 defending his thesis was awarded a Ph.D. degree in Phys.-Math. sciences. Since 1964 he continued his research activities at the newly created NAS RA Institute of Radiophysics and Electronics (IRPhE), and



Radik Martirosyan

since 1965 he simultaneously taught at the YSU; as an Associate Professor since 1966, and as a Professor since 1982. He was Head of Laboratory (1970-1980), Deputy Director (1971-1981) and Director (1980- 2006) of IRPhE, Head of Chair of Ultrahigh Frequencies of YSU Radiophysics Department (1983- 1993) and YSU Rector (1993-2006). In 1980, he was awarded a Doctoral degree in Phys.-Math. sciences. Martirosyan was elected NAS RA Corresponding member (1986) and Full member (1990) in Radiophysics and Electronics, NAS RA Presidium member (since 1993) and President of NAS RA (since 2006). He is the Chair of the International Steering Committee of Viktor Ambartsumian Prize since 2009.

Martirosyan's research relates to quantum and ultrahigh frequencies radiophysics, application problems of superconductivity, space research, radio astronomy, studies of Earth's natural resources by radiophysical methods.

Martirosyan is the author of more than 200 scientific papers and two books. He is a laureate of Ukrainian and ArmSSR (1988) state prizes. He was awarded the Armenian Order of St. Mesrop Mashtots (1999), "Sign of Honour" and Peoples' Friendship orders, French National Order of the Legion of Honour and Italian order "For Services in the fields of Science and Culture", Gagarin gold medal and other medals. He was awarded a certificate of ArAS Honorary Member in 2016.

Areg Mickaelian

Edward Chubaryan's 85th Anniversary

Edward V. Chubaryan, theoretical physicist, one of the founders of the Armenian school of physics of superdense celestial bodies, Honored Scientist, Academician of NAS of Armenia, Doctor of Physical and Mathematical Sciences, Professor, Honorary Head of the Theoretical Physics Department of Yerevan State University, celebrated his 85th anniversary on 5 May.



Edward Chubaryan

Prof. Edward Chubaryan was born on May 5, 1936 in Spitak, Armenia. In 1958 he graduated from the Department of Physics of the Faculty of Physics and Mathematics of Yerevan State University. After graduating from the University, in 1958–1961 E. Chubaryan continued his postgraduate studies at the Department of Theoretical Physics. After defending his PhD thesis in 1964 he began working at the same department, first as a senior lecturer and from 1967 as an Associate professor and since the defense of his doctoral dissertation in 1972 he is a professor of the Chair of Theoretical Physics.

Edward Chubaryan's scientific research is devoted to thermodynamics of degenerate superdense matter and the theory of superdense celestial bodies, whose bases in the early 1960s were laid by academicians Victor Ambartsumyan and Gurgen Sahakian.

In 1970, for his research work in this field, Edward Chubaryan together with Davit Sedrakyan and Vladimir Papoyan was awarded the Prize of Lenin Komsomol. In subsequent years Edward Chubaryan together with the staff members of the Department of Theoretical Physics carried out a series of works devoted to the theory of pulsars, rotating magnetized neutron stars.

Edward Chubaryan is the author of more than 150 scientific papers published in national and international journals. He is the coauthor (with academician Gurgen Sahakian) of the textbook "Quantum Mechanics" in Russian and Armenian languages, "Collected Problems in Theoretical Physics", as well as of "Collected Problems in Physics" for University entrants.

Professor Chubaryan was awarded by: Khachatur Abovian Medal, Gold Medal of YSU, Medal of Nansen.

He teaches a course in "Quantum Mechanics", as well as special courses in theoretical physics at the Faculty of Physics. Six PhD theses were defended under his supervision.

INTERNATIONAL NEWS

Recipients of 2021 Gruber Cosmology Prize Announced



Marc Kamionkowski, Uroš Seljak and Matias Zaldarriaga

On 5 May, the winners of the Gruber Cosmology Prize were announced.

The 2021 prize has been awarded to Marc Kamionkowski, Johns Hopkins University, Uroš Seljak, University of California at Berkeley and Lawrence Berkeley National Laboratory, and Matias Zaldarriaga, Institute for Advanced Study for the development of techniques for studying the Cosmic Microwave Background that have provided deep insights into the primordial Universe, as early as a fraction of a second after the Big Bang. The CMB is the ubiquitous radiation left over from when atoms first formed, releasing radiation that remains as the Universe's "background noise". The three recipients of the prize developed techniques to use observations of the CMB to derive information about the early Universe.

They will equally share the US\$500 000 award, and each will receive a gold medal at a ceremony that will take place in August, at the 24th International Conference on Particle Physics and Cosmology (COSMO'21) conference series at the University of Illinois and online.

For more information:

https://www.iau.org/news/pressreleases/detail/iau2103/?lang&fbclid=IwAR2EvWxR4z3e1JunnM0GR_mA_Bkg-daumdJzVjLcEXQjyJ2SeHGWkrT78NM

ArAS News is the electronic newsletter of the Armenian Astronomical Society. It was distributed to all ArAS members from the beginning of 2002, 4 times a year, typically at the end of each trimester. In 2009-2014, 8 issues annually and since 2015, 12 issues annually have been released.

ArASNews publishes information materials on ArAS, Byurakan Astrophysical Observatory and the Armenian astronomy in general, reports on ArAS Annual Meetings and participation of the Armenian astronomers in important international meetings, 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 science articles (reviews) on important studies.

So, if you want to share your studies with the scientific community, send us your articles to melin.asryan@gmail.com. They will be reviewed for the publication in ArAS Newsletters next issues.

ArAS Newsletter issues are available online: <https://www.aras.am//ArasNews/arasnews.html>