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# ArAS Newsletter



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# Calendars of 2024

We're excited to inform you that the 2024 Calendar of Celestial Events as well as International/Local Event Calendars on Astronomy are now up on Armenian Astronomical Society's (ArAS) website. The calendars are bilingual: Armenian and English.

Go ahead and sync your calendar with the cosmic events:

<https://www.aras.am/Calendar/2024/2024.php>

## LOCAL NEWS

### Armenian Astronomical Society Annual Prize and GTTP International Certificate Award

On December 12, the name of the recipient of the Armenian Astronomical Society (ArAS) 2023 award was announced during the annual meeting of the Byurakan Astrophysical Observatory (BAO).

ArAS prize 2023 was awarded to Arus Harutyunyan, BAO Senior Researcher for her active scientific and organizational endeavors. It should be noted that the prize is named after the famous astronomer Yervand Terzian.

Varduhi Mkrtychyan, BAO Assistant Astronomer, and Lilit Hovhannisyanyan, teacher at the Wonder Kid STEM school in Gyumri were awarded the Galileo Teacher Training Program (GTTP) International Certificate, officially becoming “Galileo Teacher”. It should be noted that the Galileo Teacher Training Program was initiated during 2009’s International Year of Astronomy, and named after the famous 17<sup>th</sup> century Italian astronomer and physicist. It is aimed at teaching astronomy by innovative methods. The certificate is awarded to the people who have contributed the most to astronomical education in Armenia.



Left: Arus Hrutunyan. Right: Varduhi Mkrtychyan

## One Day, Two International Seminars

On December 4, the Byurakan Astrophysical Observatory hosted 2 international seminars. The invited speakers were Eduard Vorobyov and Tamara Molyarova from the Institute of Physics, Southern Federal University (Rostov-on-Don, Russia).

Eduard Vorobyov's talk was devoted to resolving the mystery of FU Orionis. He described that FU-Orion-type objects (FUors) are characterized by short (tens of years) episodic outbursts, during which their luminosity increases by orders of magnitude. A possible cause of such flares may be a gravitational perturbation during close encounters in young star-forming regions. Numerical simulations show that to generate a burst with characteristics close to those of FUors, a fairly close flyby with a periastron no larger than several tens of AU is required. Learn more here.

As for Tamara Molyarova, her talk was dedicated to Molecular signatures of past FU Ori outbursts. She noted that The scenario of episodic accretion suggests that luminosity outbursts happen to youngest stellar objects, but are relatively short compared with the long quiescent periods between them. Read further.



Left: Eduard Vorobyov and Tamara Molyarova. BAO. 2023

## 17<sup>th</sup> Ambartsumian Readings

On December 7, “17th Ambarstumian Readings” was held at the Byurakan Astrophysical Observatory.

The event should have been held in September, yet in connection to the difficult situation in Artsakh, it was first cancelled and then postponed to December.

BA director Areg Mikayelyan delivered the opening speech at the "17th Ascension Readings". At the event professionals of different fields were invited to have talks on the latest achievements of their field. The programme included talks by BAO Deputy Director Haik Harutyunian, BAO researcher Hayk Malkhasyan, BAO Senior Researcher Hovhannes Pikichyan, Archaeologist Hakob Simonyan, Research Associate Armen Davtyan, linguist Leyla Stepanyan and by Hovhannes Azizbekyan.

*We're thrilled to inform you that in the near future the reports made at “Ambartsumian Readings” will be available in the form of an electronic magazine.*



17<sup>th</sup> Ambarstumian Readings. BAO. 2023

## Jubilee Workshop of the Byurakan Astrophysical Observatory and Russian Astronomy Center

On December 8, the jubilee workshop dedicated to the decade-long collaboration between the Byurakan Astrophysical Observatory and the Russian “Astronomical Center” was held at the BAO. The event featured five reports.

The workshop opened with the report of Areg Mickaelian, director of the observatory, which was dedicated to the Armenian-Russian cooperation in the field of Astronomy. Then, the leaders of both sides of the project, Haik Harutyunian and Mikhail Kardashenko, presented a joint report on the restoration and operation of the Saravand base of the Applied Astronomy Center.

From the Russian side, the reports of Vladimir Agapov, Yevgeny Biryukov and Denis Demyanov were dedicated to the use of modern techniques for the increase of the observations efficiency. Georg Tuparev, who came to Armenia from Bulgaria for this purpose, participated in the workshop, whose company is involved in the development of control programs for modern telescopes. Issues of further cooperation were also discussed during the workshop.

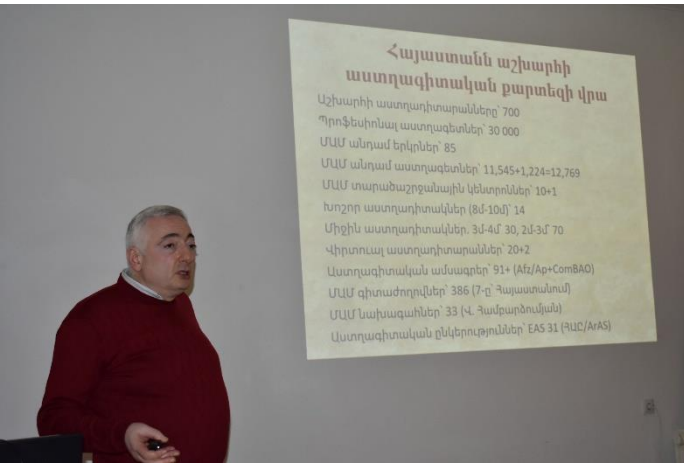
“Astronomical Center” company, which today has observatory bases in Namibia, Morocco, Cuba and elsewhere in addition to the Russian Federation, represented by the general director Mikhail Kardashenko, stated that the observatory base in Byurakan is very important for them and they will continue to cooperate closely in the future. with Armenian astronomers.

It should be noted that this cooperation commenced ten years ago, on November 30, 2013, with the installation of an entire observation complex, specialized for the detection and registration of fast-moving bodies in the sky at BAO. This marked the beginning of the observation of space around the earth in this location. In order to carry out these works, the Center of Applied Astronomy was organized in the BAO, where during the last ten years these observations, which in astronomical jargon are called the observation of space debris, have never stopped.



Haik Harutyunian, Areg Mickaelian

## Byurakan Astrophysical Observatory Annual Meeting 2023



Areg Mickaelian. BAO. 2023

On December 13, the Byurakan Astrophysical Observatory which was devoted to the BAO 2022 scientific and organizational activities. Among the presentees were Radik Kostanian, Narine Davidian, Aram Papoyan Tigran Zaqarian and Vahan Kochrian. At the meeting, BAO director Areg Mickaelian presented BAO 2023 achievements and established cooperations.

You can find the presented report online:

<https://www.bao.am/reports/2023.pdf>

Heads of BA research departments made speeches at the meeting, summarizing the results recorded by the respective departments.

Judging by all the indicators BAO remains one of the most efficient scientific institutes in Armenia.

According to tradition, at the end of the meeting the Armenian Astronomical Society (AAS, ArAS) Annual Prize ceremony, the Galileo Teacher Training Program (GTTP) International Certificate Award Ceremony were held and Scientific Journalism Award winner was announced with the award ceremony being set for January 2024.





## ANNIVERSARIES

### Elma Parsamian's 94<sup>th</sup> Anniversary



Elma Parsamian

On December 23, we celebrate Professor Elma Parsamian's 90th anniversary. Since the early years of foundation of Byurakan Astrophysical Observatory (BAO), she has had a significant contribution in the development of Armenian observational astrophysics, as well as in preparation of future astronomical generations. Prof. Parsamian was born on 23 December 1929 in Yerevan. Finishing the secondary school with a gold medal, she studied in 1949-1954 at Yerevan State University (YSU) Department of Physics and Mathematics. After the graduation of YSU in 1954 she started working in Byurakan. She was a post-graduate in 1957-1960 and took her Ph.D. degree at the YSU in 1963 under the supervision of Prof. G.A. Gurzadian on "Colorimetric and polarimetric investigation of some cometary nebulae". In 1967-1986, Parsamian was a Senior Researcher, in 1986-2000, a Leading Researcher, and since 2000 she is a Principal Researcher at BAO. In 1983, she defended her second thesis and became a Doctor of Sciences. Since 1989 she is Professor. In 1983-1987, Parsamian simultaneously worked at the Armenian Pedagogical Institute as the Chair of the Department of Astronomy and Theoretical Physics. In 1967-1971 and 1990-1991 she lectured at the YSU and has been a supervisor of a number of diploma and Ph.D. theses. In 1968-1969, 1976-1977 and 1991-1995, Parsamian worked at UNAM and Tonantzintla Observatory in Mexico as a researcher of the highest "C" degree. There she also lectured at the University in 1992. In 1965 and 1996, she was a visiting scientist in 14 Germany (Tautenburg Observatory and Max-Planck-Institute for Astronomy in Heidelberg). In 1982 she also worked in Italy (Asiago Observatory), as well as in some other institutions. In 2000, Parsamian was elected a Corresponding member of the Armenian National Academy of Sciences, and in the same year, a member of the Editorial Board of journal "Astrofizika" ("Astrophysics"). Parsamian's studies concern the physics of gaseous nebulae, investigation of variable stars in star clusters and associations, and archaeoastronomy. She has carried out colorimetric and polarimetric study of cometary nebulae (the subject of her Ph.D. thesis). In 1965, Parsamian published the first catalog of cometary nebulae. Since 1965, she was engaged in studies of variable (mainly flare) stars. In 1970-1981 she participated in the large program of search and investigation of flare stars in young stellar groups (Pleiades, Orion, Hyades, Praesepe, Cygnus, etc.) organized in BAO. Parsamian has discovered and observed

numerous flare stars. In 1976, she has worked out a new method for determination of the age of flare stars and stellar associations and clusters containing flare stars. In 1979, together with V.M. Petrosian, Parsamian published her second catalog of cometary nebulae containing 106 such objects. She has studied the frequency distribution function of flare stars in the Orion association and estimated that there were 1.5 times more flare stars than in Pleiades. In 1982, together with the Mexican astronomer E. Chavira, she published a catalog of 534 stars in the Orion nebula region having H $\alpha$  emission (half of them discovered by herself) adding many new such stars to Haro's list. At present Parsamian is the PI of a research group in Byurakan and works on spectral study of fours and subfours, spectrophotometry of planetary nebulae and problems of distribution of flare activity and frequency of flares of flare stars. Some cometary and planetary nebulae discovered by her have been named after Parsamian. Parsamian has significant contribution in archaeoastronomy. She has justified the astronomical significance of buildings in Metsamor (1967), Zorats Karer Karahunge (1984). Particularly, she discovered proves about the existence of astronomical observing platforms in Metsamor. She showed that Sirius was observed in Metsamor in 2500-2600 B.C. As a result, Parsamian has published 136 scientific papers, as well as a number of popular articles. She has participated in more than 50 international and all-Union symposia and conferences, including 4 IAU General Assemblies and several other IAU meetings. Parsamian is a member of 15 IAU (1976), EAS (1990), EAAS (1996), and ArAS (2001). She also is a member of BAO Specialized Council for Scientific Degrees (1980) and its Chair since 2007, Vice-President of the working group "Flare Stars" of the Commission on Stellar Physics of the academies of sciences of Socialist countries (1985-1988), member of the USSR Commission on Preparation of Astronomical Staff (1986-1991), member of Editorial Board of the journal "Historical-Astronomical Investigations"(1988-1992), member of astronomical scientific-methodological commission of the USSR universities and institutes (1990-1992). Parsamian has been awarded the medal "For Labour Valour" (1971), Letter of Commendation of the Armenian NAS (1981), and Anania Shirakatsi medal (2003). Her name was included in Armenian Concise Encyclopedia (Vol. 4, p.183, Yerevan, 2003) and "Who is Who" encyclopedia (Vol. 2, p.314, Yerevan, 2007).

*Our sincerest congratulations to prof. Elma Parsamian.*

*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](mailto:melin.asryan@gmail.com). They will be reviewed for the publication in ArAS Newsletters next issues.

[ArAS Newsletter issues](#) are available online.