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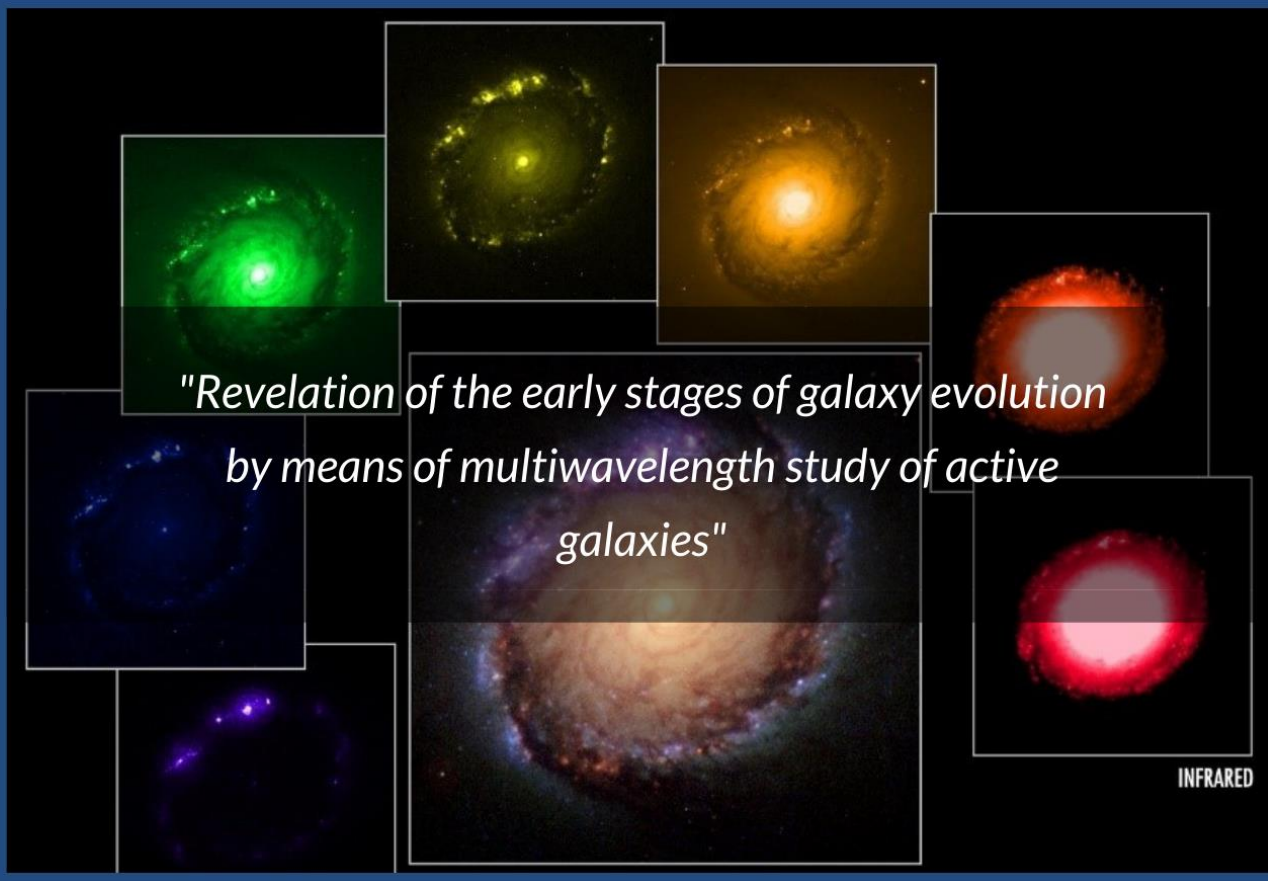
ArAS Newsletter



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CONTENTS

NEW ArAS MEMBERS

We Continue to Grow!

Armenian Astronomical Society *is happy to welcome two new members to the organization. Karen Gigoyan, Assistant Astronomer in the department of Astronomical Surveys of BAO, and Meline Asryan, ArAS e-newsletter editor (since 2021) and* Press-Secretary of BAO joined our family this March.

Karen Gigoyan

Meline Asryan

Together with new people, we are an NGO of 100 members, including 11 founding, 1 honorary, 73 full and 18 junior members.

We would also like to congratulate Hasmik Andreasyan with her new position as ArAS treasurer. We wish her best of luck in this new job.

Hasmik Andreasyan

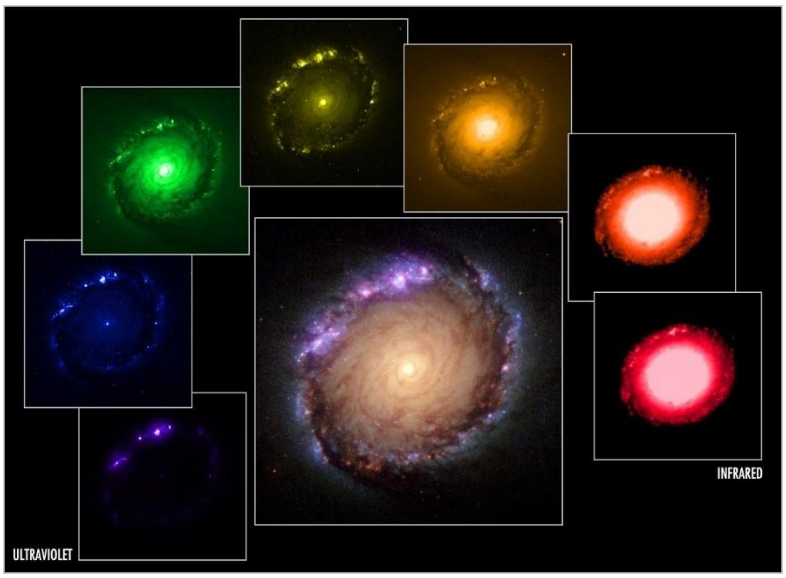
LOCAL NEWS

Revelation of the Early Stages of Galaxy Evolution by Means of Multiwavelength Study of Active Galaxies

As it was announced in ArASNews issue 146, one of the two BAO research topics that were included in the list of guaranteed scientific topics for funding announced by the Science Committee of the Ministry of Education, Science, Culture and Sports of RA was “Revelation of the early stages of galaxy evolution by means of multiwavelength study of active galaxies”. The head of the research group is Areg Mickaelian, Director of BAO.

The project is being successfully implemented. 6 scientific articles have already been published. As for final results, they’ll be presented at the European Annual Astronomical Conference in June 2022 and at the General Assembly of the IAU in August 2022.

We are glad to inform you that the project has a newly launched website where you can learn about the details.



“…Based on X-ray, infrared (IR) and radio sources, a large homogeneous sample of active galaxies will be constructed, which will significantly supplement and enrich the list of active galaxies found in the optical range. Morphological research will be carried out and interacting pairs/multiples and merging galaxies will be revealed to study interactions and merging. The luminosities of galaxies and X-ray/opt, IR/opt and radio/opt flux ratios will be calculated: many new high luminosity objects will be discovered. The physical properties of active galaxies will be studied, in particular the star formation rate and the relationship between X-ray/UV/opt/IR/radio. Based on the changes in the obtained physical properties over distances, the regularities of the early stages of the evolution of galaxies will be revealed. A large homogeneous multi-wavelength catalog of active galaxies will be published.”

New Publications in Famous International Scientific Journals

Armen Sedrakian, Arus Harutyunyan, Mark Alford

Researchers of the Byurakan Astrophysical Observatory, head of "Cosmic Compact Objects and Relativistic Gravity" Research Department, Foreign Member of NAS RA Dr. Armen Sedrakian and Research Associate of the same Department Arus Harutyunyan published papers in Physical Review D and Particles international scientific journals in collaboration with Mark Alford, a theoretical physicist and chair of the Department of Physics at Washington University in St. Louis.

The bespoke papers are "Bulk Viscous Damping of Density Oscillations in Neutron Star Mergers" and "Bulk viscosity of baryonic matter with trapped neutrinos". They are devoted to the discussion of the damping of density oscillations in dense nuclear matter in the temperature range relevant to neutron star mergers and the study of bulk viscosity arising from weak current Urca processes in dense baryonic matter at and beyond nuclear saturation density.

ANNIVERSARIES

Misha Kazarian's 90th Anniversary

Misha Kazarian

On March 5, Misha Kazarian would celebrate his 90th anniversary. He was one of the most famous Armenian astronomers in the field of extragalactic astronomy, professor of YSU Faculty of Physics, long-term head of the Department of Astrophysics and the *author of Kazarian Galaxies.*

Misha A. Kazarian was born on March 5, 1932, in the city of Maralik, Armenia. In 1958, he graduated from the Yerevan State University (YSU). He worked at Byurakan Astrophysical Observatory (BAO) in 1958- 1980. In 1968, he defended his PhD thesis under the supervision of Professor Grigor Gurzadyan, while in 1990 he was awarded the degree of Doctor of Sciences in Physics and Mathematics.

Since 1968 Kazarian worked at YSU Chair of Astrophysics, first as a lecturer, and later (from 1990) as a professor. He was the head of the Chair of Astrophysics in 1994-2005. In 1980-1990, he held the position of the head of YSU artificial satellites observation station.

Kazarian's research was devoted to H-alpha stars, cometary nebulae, galaxies with UV excess. He published more than 100 papers in Astrofizika / Astrophysics, Communications of BAO and Astrophysics journal. He presented reports at various international conferences.

706 galaxies with UV excess were recorded and later named as Kazarian galaxies. 120 out of these objects have been studied photometrically and spectroscopically by Kazarian et al. with BAO 2.6m and SAO (Russia) 6m telescopes.

Kazarian made a significant contribution to the training of many Armenian astronomers. He was a member of the International Astronomical Union, the European Astronomical Societ and the Armenian Astronomical Society.

Vigen Malumian's 90th Anniversary

Vigen Malumian

On March 11, Prof. Vigen Malumian would celebrate his 90th anniversary.

Prof. Malumian was born on March 11, 1932 in Yerevan, Armenia. Prof. Malumian's main research interests include investigations of isolated and double galaxies, groups of galaxies, radio galaxies, quasars and other radio sources in both radio and other wavelengths ranges. On these and some other scientific topics he published more than 80 papers, presented a number of talks at different international scientific meetings.

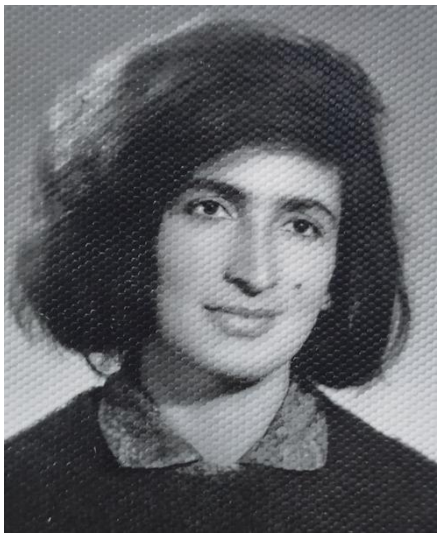
Prof. Malumian worked at the Byurakan Astrophysical Observatory for more than half a century. He was a leading scientific researcher (since 1995), member of the Scientific Council and Council for Scientific Degrees of the BAO.

Malumian lectured at the Yerevan State University for many years. Since 1995 he was a Professor and has contributed significantly in preparation of Armenian astronomers as well.

Prof. Malumian was a member of IAU (since 1997), EAS and one of the founding members of ArAS.

On March 7, 2022, one of the seminars held at the BAO was devoted to Malumian's memory. The speaker was BAO Senior Research Associate Ruben Andreasyan, who presented a talk on V. Malumian's life and activities.

Karine Sahakian's 85th Anniversary



Karine Sahakian

On March 15, Dr. Karine Anushavan Sahakian, one of the best astronomers-observers at the Byurakan Astrophysical Observatory (BAO) working in the field of extragalactic astronomy would celebrate her 85th anniversary.

Karine Sahakian was born on March 15, 1937. In 1958, she graduated from the Yerevan State University (YSU) Chair of Astrophysics and started working at the Byurakan Astrophysical Observatory (BAO). In 1972, she defended her Ph.D. theses under the supervision of Prof. V.A. Ambartsumian. She was a senior research associate at BAO.

K. Sahakian's main research field was extragalactic astronomy, and the research interests were photometric and spectroscopic studies of Markarian galaxies, especially their central structure, as well as stellar associations and superassociations in galaxies.

K. Sahakian made a lot of observations with the Byurakan telescopes, particularly the largest 2.6m telescope. Dr. Sahakian was an author of several dozens of scientific papers and a book titled "Manual of young astronomer" (1969, Yerevan). She passed away in 1993.

OBITUARIES

Famous Astronomer Hrant Tovmassian Passed Away

It is with great sadness that we announce to you the passing of Hrant Tovmassian, one of the most famous Armenian astronomers.

It is hard to overestimate his numerous scientific results, as well as administrative, teaching, editorial, and organizational activity. Most of Tovmassian's very productive creative life passed in the Byurakan Astrophysical Observatory (BAO), and later continued successfully in Mexico. The significant part of achievements of the Armenian astronomy in the field of radioastronomy is connected with Tovmassian's name, and during the last years, he obtained important results also in other fields of astronomy.

Hrant M. Tovmassian was born on June 3, 1929 in Yerevan. He graduated the Yerevan State University (YSU) Department of Physics in 1953. The same year he joined the staff of the BAO. He was a post-graduate at BAO in 1953-1956, and took his Ph.D. degree in Physical-Mathematical Sciences in 1958 under the supervision of Prof. S.E. Khaikin ("Increase of the sensitivity of interferometric radio telescopes"). In 1969, at the age of 40 (one of the youngest), Tovmassian became a Doctor of Physical-Mathematical Sciences (thesis: "Optical and radio studies of galaxies and clusters of galaxies").

H. Tovmassian was the Scientific Secretary of BAO in 1968- 1972, Head of Laboratory in 1972-1992, Deputy Director of BAO on Science in 1979-1986, Leading Research Associate and Head of a research group since 1986. Tovmassian lectured at the YSU Chair of

Astrophysics in 1967-1992, and became a Professor in 1986. Since 1992, he worked at Instituto Nacional de Astrofisica, Optica y Electronica (INAOE, Puebla, Mexico) as a scientist of title “C”. During different years, he also worked and mainly made radio observations in UK, Australia, USA, Germany, Spain, and South Korea. He was the supervisor of numerous theses both in Armenia and Mexico.

Prof. Tovmassian's main research fields were radiogalaxies, radio properties of Markarian galaxies, space astronomy, groups of galaxies, flare stars. His main scientific results may be given as:

- 1960s-1970s, Radio observations of more than 1000 Markarian galaxies on radio telescopes of the USA and FRG. Discovery of radio emission from Seyferts and BL Lac objects among them. Revealing differences of radio emission between Sy1 and Sy2 galaxies.
- 1970s, Radio observations of a few hundred clusters of galaxies and a consequent identification of detected radio sources with individual galaxies. It was shown that radio sources occur mainly in clusters of Bauts-Morgan type I, clusters having only one very bright galaxy.
- 1970s, by means of radio continuum (HII) and monochromatic (H I) observations of ~20 young stellar clusters it was shown that around some of them exist expanding gas clouds.
- 1970s-1980s, Discovery of supershort (spiky) flares of duration of a few tenths of a second by observations with specially constructed two-color fast photometer. It was shown that spiky flares usually appear on the declining part or after the usual flares of duration of a few minutes, and that they usually are bluer. It was shown that the multiplicity of forms of stellar flares depend on the position of flare on the star's disc (with V.P. Zalinian, et al.).
- 1980s, Study of the IR radiation of more than 100 late-type giant stars with anomalous chemical composition (excessive abundance of C, Zr, La, etc.); discovery of IR excess for many of them proving the presence of dust shells (with Yu.K. Melik-Alaverdian, et al.).
- 1980s Study of the UV spectra of galaxies by means of the Soviet space observatory Astron; significant increase of radiation at far UV was detected for some galaxies.
- 1984-2004, Spectroscopic studies of the Second Byurakan Survey galaxies aimed at study of the sample at B<17; discovery of many new Seyferts, LINERs, Starbursts, BCDGs, etc. (J.A. Stepanian, L.K. Erastova, V.H. Chavushian, H.M. Tovmassian, in collaboration with astronomers from Mexico).
- 1987, Designing and building of the space observatory "Glazar" (40 cm telescope, 1.3 degree field of view), which operated onboard Soviet space station "Mir". About 20 O-type stellar associations were observed at 1640 A. Due to larger influence of extinction at 1640 A, a number of new O-associations were detected in directions of known associations.

- 1990-1996, Study of OB Stellar Associations with the Glazar UV space observatory at 1640 A wavelength; O-B-A type stars were observed in the direction of 20 associations, 93 stars with dust envelopes were found, half of them also being IR sources (with R.Kh. Hovhannessian, R.A. Epremian in collaboration with astronomers from Switzerland).
- 2003, Suggestion of a unified phenomenological model of light curves of stellar flares to explain a wide variety of flares. An assumption was made that a flare consists of a fast and relatively strong rise in brightness followed by a slow and fainter component. The latter is a result of re-radiation of the part of the energy of the prime flare by the photosphere of the star (with V.P. Zalinian, in collaboration with astronomers from Mexico).

Tovmassian's contribution in astronomical instrument-making is also significant. He was the initiator and direct supervisor of the "Glazar" (launched on the Mir Space Station in 1987) and "Glazar-2" (1990) space telescopes, the project of "Ashot" (1988) space observatory, the offset guiding system (1984) and two-channel fast photometer (1987) of "Astron" space observatory. He was a member (1969-1986) of Editorial board and Editor-in-Chief (1986-1991) of "Communications of the Byurakan Observatory", member of editorial boards of "Astrofizika" (1969- 1986) and "Zemlya i Vselennaya" (1975-1996) journals.

Tovmassian was a member of BAO 6 Scientific (1969-1992) and Specialized (1976-1992) Councils, Council of All-Union Astronomical Geodetic Society (VAGO, 1975-1983), Joint USSR NAS and State Space Astronomical council (1978-1991), as well as a number of scientific societies: IAU (1967), EAS (1990), Mexican Scientific Society (1994), and ArAS (2002).

In 1985, for the space project "Astron" he was awarded the State Prize of the Armenian SSR. Prof. Tovmassian published 167 papers in scientific journals, about 50 papers in the proceedings of International Conferences, 12 books, including monographs, textbooks for schools and university courses, and popular books being important for popularization of astronomy in Armenia. Among most important ones are: "Astronomy. Textbook for secondary schools" (1970, 1971, 1973, coauthors: M.A. Arakelian, A.T. Kalloghlian, L.V. Mirzoyan), "Crazy Galaxies" (1974), "Radioastronomy" (1976), "Exploding Worlds" (1979), "Extragalactic radio sources" (1986), and "Radiogalaxies" (1987)

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.