

## **Enclosure 2**

### **Activities of the ICRANet Armenia Centre**



# ICRANET ARMENIA SEAT

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# *Introduction*

The state members of ICRANet international organization are the states of Armenia, Brazil, Italy, the Vatican City State, as well as ICRA, the University of Arizona and the Stanford University. The ICRANet Armenia seat is in the Presidium of the National Academy of Sciences of the Republic of Armenia (NAS RA) since January 2014: it is among more than 34 scientific institutions and other organizations which are included in the Presidium of the Academy. In Armenia, the ICRANet centre effectively collaborates with other scientific institutions from the Academy and Universities which includes organizing joint international meetings/workshops, summer schools for PhD students and mobility programs for scientists in the field of Astrophysics. ICRANet centre in Armenia can play a strategic role for the ICRANet activities in the area of central-Asian and middle-Eastern countries. In 2014, the government of the Republic of Armenia approved the agreement to establish ICRANet international centre in Armenia. The seat agreement was signed in Rome on 14 February 2015 by the director of ICRANet Prof. Remo Ruffini and the ambassador of Armenia in Italy Mr. Sargis Ghazaryan. On 13 November 2015, the Parliament of the Republic of Armenia unanimously approved the Seat Agreement. With this status, the Seat in Yerevan will contribute to the development of Relativistic Astrophysics in Armenia and will give to Armenian researchers the possibility to participate in the international programs implemented by ICRANet.



# Current members of the group



Dr. Narek Sahakyan  
Period 2014-

## Scientists



Dr. Sargis Gasparyan  
PhD student: 2016-2019  
postdoc: 2019-



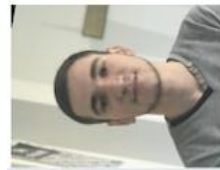
Gevorg Harutyunyan  
MS student: 2018-2020  
PhD student: 2020-



Mher Khachatryan  
BC student: 2018-2021  
MS student: 2021-



Dr. David Israyelyan  
MS student: 2018-2020  
PhD student: 2020-2022  
postdoc: 2022-



Manvel Manvelyan  
PhD student: 2022-



Yavgen Vardanyan  
ML specialist: 2020-

## Administration



Iveta Hakobyan  
Secretary: 2018



Gurgen Petrosyan  
system administrator: 2014-



Sofia Petrosyan  
Accountant: 2019-

# The entrance of Armenia

DA : AMB. REP. ARMENIA, ROMA

N. FAX : 39063297763

30 Ott. 2003 12:57 P2



ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԴԵՍՊԱՆՈՒԹՅՈՒՆ  
AMBASCIATA DELLA REPUBBLICA D'ARMENIA

Via dei Colli della Farnesina, 174 00194-Roma  
tel. (+39) 06 3296638 fax (+39) 06 3297763 E-mail: embarmat@tin.it

The undersigned Ambassador Gaghiik Baghdassarian hereby declares the ratification on the part of the Republic of Armenia, by Presidential decree no. 141, of the Agreement on the Establishment of International Network of Centres for Relativistic Astrophysics, entitled ICRANET, signed on June 12, 2003, in Rome, by Ambassador Gaghiik Baghdassarian, on behalf of the Republic of Armenia.

By means of the present, the undersigned Ambassador Gaghiik Baghdassarian, has the honour to delegate Prof. Vahe G.Gurzadyan, as representative of the Republic of Armenia to the Steering Committee of ICRANET.

In witness whereof the undersigned Ambassador Gaghiik Baghdassarian has signed the present act and affixed thereto his seal.

Rome, October 30, 2003

Ambassador  
Gaghiik Baghdassarian



ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԱՐՏԱԹԻՆ ԳՈՐԾԵՐԻ ՆԱԽԱՐԱՐՈՒԹՅՈՒՆ  
MINISTRY OF FOREIGN AFFAIRS OF THE REPUBLIC OF ARMENIA

DATA ARRIVO	23/10/12
REGISTRATO	ICRANET
PROT. N°	707

Yerevan, October 22, 2012

7/12290

PROFESSOR REMO RUFFINI  
DIRECTOR OF ICRANet

Pescara

Dear Professor Ruffini,

Thank you for your letter of 11 July 2012, on the opening of ICRANet Center in Yerevan. We welcome your initiative and look forward to cooperating closely with ICRANet and rendering support to the establishment of the Center in Yerevan.

As a member-state of ICRANet, Armenia may provide the Center with privileges and immunities by signing a respective agreement on the status of the Center.

I avail myself of this opportunity to wish you every success in your future activities.

Sincerely,

ZOHRAB MNATSAKANIAN  
DEPUTY MINISTER



# *Seat agreement*

In 2014, the Government of the Republic of Armenia approved the agreement to establish the ICRANet international center in Armenia. The seat agreement has been signed in Rome on February 14, 2015 by the director of ICRANet, Remo Ruffini and the ambassador of Armenia in Italy, Mr. Sargis Ghazaryan. On November 13, 2015 the Parliament of the Republic of Armenia unanimously approved the Seat Agreement



## AGREEMENT

### BETWEEN THE GOVERNMENT OF THE REPUBLIC OF ARMENIA AND THE INTERNATIONAL CENTER FOR RELATIVISTIC ASTROPHYSICS NETWORK (ICRANET) ON THE ESTABLISHMENT OF ICRANET CENTER IN THE REPUBLIC OF ARMENIA

**The Government of the Republic of Armenia**

and

**The International Center for Relativistic Astrophysics Network (ICRANet),**  
Jointly referred to as “Parties”,

**Wishing** to develop and strengthen the cooperation between the Republic of Armenia and ICRANet to promote research, training and education in the field of relativistic astrophysics;

**Aiming** to involve scientists and professionals of the Republic of Armenia in the activities organized and implemented by ICRANet and in trainings at post-graduate and post-doctoral levels as well as to promote joint implementation of exchange programs;

**On the basis** of the Agreement on the Establishment of the International Center for Relativistic Astrophysics Network, signed on June 12, 2003;

Hereby agreed on the establishment of ICRANet Center, in the system of the National Academy of Sciences of the Republic of Armenia, with the terms and conditions of functioning as stated hereunder:

#### Article 1

Within the purposes of the present Agreement:

- a. “Government” stands for the Government of the Republic of Armenia;
- b. “Center” stands for the International Center for Relativistic Astrophysics Network (ICRANet Center), which is established in the system of the National Academy of Sciences of the Republic of Armenia and located in the main building of the Institute of Geological Sciences (address: 24A, Marshall Baghramyan Avenue, Yerevan 0019, Republic of Armenia).
- c. “ICRANet” stands for the International Center for Relativistic Astrophysics Network;
- d. “Statutory Agreement” stands for the Agreement on the Establishment of the International Center for Relativistic Astrophysics Network (ICRANet);
- e. “Statute” stands for the Statute of ICRANet, attached to the Statutory Agreement.
- f. “Property” stands for real estate, furniture, vehicles, rights, assets in any



- currency, credits, income, other assets and everything that may constitute the patrimony of Center;
- g. "Files" stands for the correspondence, manuscripts, audio-visual material of any kind, as well as all other documents belonging to Center or in its possession;
  - h. "Staff" stands for the employees of the Center, who are not nationals of the Republic of Armenia, nor have permanent resident status in the Republic of Armenia;
  - i. "Local staff" stands for the employees hired by the Center in the territory of the Republic of Armenia for the performance of administrative duties or services.

#### **Article 2**

1. Within the framework of the present Agreement, in compliance with the Statutory Agreement and the legislation of the Republic of Armenia the Center as a research institution is established. In accordance with the provisions of Article 2 of the Statute the Center shall implement ICRANet mission in the Republic of Armenia by supporting and supplementing national efforts in the areas of research, training and education in the field of relativistic astrophysics.

2. Within the scope of its activities the Center shall be responsible for developing, coordinating and supporting cooperation between the Government and ICRANet, as well as promoting the development of relativistic astrophysics with academic community and civil society. ICRANet may support to the development of country studies and research programs with the participation of Armenian research institutions and universities by providing high quality services and mobilizing resources for the financing of projects, as well as other activities prescribed by Article 3 of the Statutory Agreement.

#### **Article 3**

1. In conformity with Article 1 of the Statute, the Center shall have legal personality and shall have the capacity to conclude contracts, to acquire and dispose movable and immovable Property, to open legal proceedings, bank accounts in local and foreign banks in national and foreign currency and to possess them.

2. In terms of scientific activity the Center shall remain under the authority and responsibility of ICRANet. With respect to issues on labor, sanitary and other requirements the norms deriving from the legislation of the Republic of Armenia shall be applied.

3. The premises of the Center shall not be used for the purposes not compatible with the functions of ICRANet.

#### **Article 4**

1. The budget of the Center is composed from contributions of the Parties.

2. The Contributions of the Government to the Center will be made annually as part of general means provided by the budget of the Republic of Armenia for scientific and technological activities.

3. ICRANet will make its own contributions to the budget of the Center by implementing annual mobility programs for researchers of the Center aimed at visits to other ICRANet Centers and exchange of best practices, by supplying computer facilities with the aim to establish scientific data base in the Center and transfer data from ground and space based observatories.

4. Insurance of the premises and equipment of the Center will be covered by the Armenian Party. The insurance for the equipment obtained for the Center by ICRANet shall be covered by ICRANet.

5. The Center will cover part of its expenses from its own budget, including organization of visits, communication services, information technologies and programs, as well as office supplies and expenses related to restoration of equipments and technical assistance. From the annual means provided by the budget of the Republic of Armenia for scientific and technological activities, the Government will also ensure communal services and security of the premises in conformity with the protection regime of the building.

6. Necessary internal renovations may be made in the premises of the Center provided that no structural elements of the building are changed.

#### **Article 5**

1. The Ministry of Education and Science of the Republic of Armenia will establish a Governing Board in order to coordinate the activities of the Center. The Director of ICRANet is the Chair of the Governing Board. Other members will include one member from ICRANet Governing Board, one member from ICRANet Scientific Committee, the Chairman of the State Committee of Science of the Ministry of Education and Science of the Republic of Armenia, the President of the National Academy of Sciences of the Republic of Armenia and one representative from the Ministry of Foreign Affairs of the Republic of Armenia.

2. The Governing Board shall approve:

- short and long-term scientific development programs and reports;
- reports on the Center's annual activity;
- programs on training and retraining the scientific personnel;
- reports on the results of the Center's participation in major scientific programs;
- projects and other forms of collaboration;
- annual program on organization and participation in scientific events, including conferences, workshops, schools for young scientists;
- the structure of the Center;
- Statute of the Center, as well as its amendments;

The Governing Board shall supervise over the execution process of its resolutions, and realize other authorities related to the activities set in paragraph 2 of Article 3 of the Statute.

#### **Article 6**

1. The Center shall have a Director, appointed by the Governing Board, which, in the performance of his/her duties, shall:

- act as accredited representative of ICRANet in the Republic of Armenia;



- promote ICRANet's services in the Republic of Armenia;
  - develop a strategic framework of cooperation, an annual work program, active partnerships between the Government and ICRANet, academic community, civil society, non-governmental organizations;
  - lead and coordinate the overall program and project development and mobilize related financial resources;
  - support and monitor the implementation of ICRANet projects and programs, and contribute to the management of all other ICRANet activities in the Republic of Armenia.
  - take the responsibility for general supervision of the premises and the equipment of the Center.
2. The Center's Local staff shall be hired in conformity with the legislation of the Republic of Armenia on labor and social security.

#### **Article 7**

The Center, its buildings and files shall be inviolable. Properties belonging to ICRANet in the Republic of Armenia shall be exempt from requisition, confiscation or sequestration and expropriation, besides the use for public purposes as defined by the legislation of the Republic of Armenia.

#### **Article 8**

1. The Government shall finance customs duties for the import of facilities, equipments, computers and co-finance the articles and publications intended for the Center's scientific and scientific-technical activities. The imported goods shall not be traded in the Republic of Armenia without Government's authorization.

2. The Center will be exempted from custom duties and any other taxes for the import of two vehicles and their spare parts. The vehicles will be registered with special series distributed to the vehicles of diplomatic missions and international organizations accredited in the Republic of Armenia. Fuel and lubricant necessary to those vehicles could be bought or imported without paying duties, in the limits fixed for other international organizations present in the Republic of Armenia.

#### **Article 9**

The Center's staff and its Properties shall enjoy immunity of jurisdiction and execution in the territory of the Republic of Armenia, except:

1. in case of express renunciation, through its Director;
2. in case of a labor or social security related suit initiated by an employee or a former employee of the Center;
3. in case of a civil suit initiated by a third party for damages, injury or death resulting from accident caused by a vehicle belonging or used on behalf of the Center;
4. in case of a traffic violation involving a vehicle belonging to the Center or used on its behalf;
5. in case of a countersuit directly related to a court suit initiated by the Center.

**Article 10**

1. ICRANet will be responsible for all the injuries and prejudices caused by its activities in the Republic of Armenia.
2. ICRANet will take the Government away from any indemnification requests for damages caused to third parties.
3. ICRANet will stipulate an insurance to cover any civil responsibility to third parties, in order to assure itself from possible damages caused while performing its activities.

**Article 11**

Any dispute concerning the interpretation or the application of the provisions of the present Agreement will be settled through negotiations and consultations between the Parties.


**Article 12**


The Parties may, by mutual consent, introduce amendments and supplements to this Agreement by separate records. The latter shall come into force in conformity with the procedure set forth by the present Agreement and shall be considered as part of the it.

**Article 13**

1. The present Agreement shall come into force on the date of receipt of the last written notification of the Parties via diplomatic channels, certifying the fulfillment of the internal procedures necessary for such entry into force.
2. This Agreement is concluded for indefinite period. Any of its Parties may notify the other of its intention to denounce this Agreement. Termination shall become effective six (6) months after the date of receipt of the notification from the other Party.

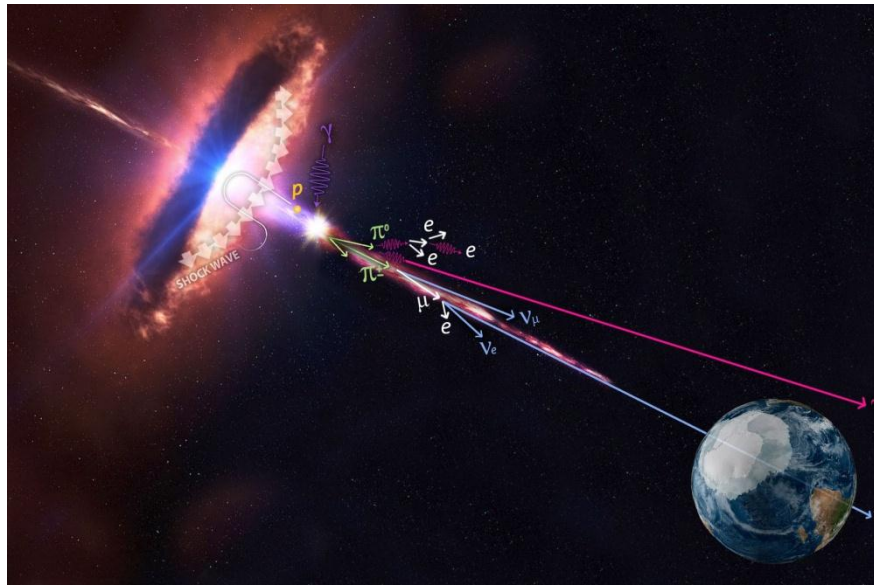
Done at Rovani, on 13. February 2015 in duplicate in Armenian and English languages, both texts being equally authentic. In case of divergences between the texts, the English text shall prevail.

  
**For the Government of  
the Republic of Armenia**

  
**For the International Center for  
Relativistic Astrophysics Network**

# *Scientific activity of ICRANet in Armenia*

The main scientific activities of ICRANet-Armenia are in the field of X- and gamma-ray Astrophysics and Astroparticle Physics. The results from the data analysis of Swift/NuStar, Chandra and Fermi Large Area Telescope (Fermi LAT) telescopes are used to investigate the particle acceleration and emission processes in the radio galaxies and blazars. The analysis of available data, allows to explore the emission processes and relativistic outflows in the most extreme regimes (keV-TeV). Also, the production and propagation of ultra-high-energy neutrinos from binary systems and active galactic nuclei are investigated.



Blazars are the class of radio-loud active galactic nuclei (AGN) whose relativistic jets are oriented close to the line of sight of the observer. Blazars are emitting electromagnetic radiation ranging from radio to high- energy (HE;  $>100$  MeV) and very high energy (VHE;  $> 100$  GeV) gamma-ray bands characterized by rapid and high-amplitude variability. Blazars are also potential sources for VHE neutrino emission. The research focus of the group is to investigate the origin of broadband emission from blazars, using multiwavelength and multimessenger data, and it includes a variety of topics, such as the disk - jet connection, relativistic jet physics, particle acceleration, and emission, etc.



# *Collaboration with other Institutes and Universities*

## *Collaboration with Italy*

*ICRANet:* In collaboration with Prof. Ruffini`s group, the HE emission processes in Crab nebulae, gamma-ray bursts and similar sources (consisting of pulsar and pulsar winds) are studied. In particular, taking into account different injection spectra of electrons and relevant cooling processes (synchrotron, inverse Compton and adiabatic cooling), the emitting electron spectra are obtained from the solution of kinetic equation describing the temporal evolution of electron distribution. With those spectra the electron synchrotron emission is calculated for different time periods and the observed data are modeled.

*ASI science data center with Open Universe Initiative:* In collaboration with Paolo Giommi the light curves of bright blazars are calculated using the adaptive binning method. This method enables the creation of constant-uncertainty light curves with the data of Fermi LAT. This method enables more information to be encapsulated within the light curve than with the fixed-binning method. The results will be published in the web page of open Universe-  
<http://www.openuniverse.asi.it>

## *Collaboration with Germany*



Since 2017 ICRANet group in Armenia joined the MAGIC collaboration with full rights and responsibilities, the group is in close collaboration with the colleagues from the MAGIC



collaboration. This allows obtaining and analyzing high and very high energy gamma- ray data from the observations of different astrophysical objects. Also, in 2018 and 2022 Sargis Gasparyan visited La Palma for participating in the MAGIC observations.



Dr Sargis Gasparyan participating in the MAGIC observations

# Recent publications

- Sahakyan, N., Israyelyan, D., Harutyunyan, G., Gasparyan, S., Vardanyan, V., Khachatryan, M. 2022. Modelling the time variable spectralenergy distribution of the blazar CTA 102 from 2008 to 2022. *Monthly Notices of the Royal Astronomical Society* 517, 27572768.
- Sahakyan, N., Giommi, P. 2022, A 13-yr-long broad-band view of BL Lac, *Monthly Notices of the Royal Astronomical Society* 513, 46454656. doi:10.1093/mnras/stac1011
- Gasparyan, S., Begue, D., Sahakyan, N. 2022. Time-dependent lepto-hadronic modelling of the emission from blazar jets with SOPRANO: the case of TXS 0506 + 056, 3HSP J095507.9 + 355101, and 3C 279. *Monthly Notices of the Royal Astronomical Society* 509, 21022121. doi:10.1093/mnras/stab2688
- Middei R., Giommi P., Perri M., Turriziani S., Sahakyan N., Chang Y., Leto C., Verrecchia F., 2022 The first hard X-ray spectral catalogue of Blazars observed by NuSTAR. *Monthly Notices of the Royal Astronomical Society* 514, 31793190. doi:10.1093/mnras/stac1185
- Rueda, J. A., Li, L., Moradi, R., Ruffini, R., Sahakyan, N., Wang, Y. 2022. On the X-Ray, Optical, and Radio Afterglows of the BdHN I GRB 180720B Generated by Synchrotron Emission. *The Astrophysical Journal* 939. doi:10.3847/1538-4357/ac94c9
- Wang, Yu, Rueda J., Ruffini R., Moradi R., Liang L., Aimuratov Y., Rastegarnia F., Eslamzadeh S., Sahakyan N., Zheng Y., 2022 GRB 190829A- A Showcase of Binary Late Evolution, *The Astrophysical Journal* 936. doi:10.3847/1538-4357/ac7da3
- MAGIC Collaboration, Acciari V., Ansoldi S., ... Gasparyan, S., ... Sahakyan N., ... 2022, Investigating the Blazar TXS 0506+056 through Sharp Multiwavelength Eyes During 2017-2019. *The Astrophysical Journal* 927. doi:10.3847/1538-4357/ac531d
- MAGIC Collaboration, Abe H., Abe S., ... Gasparyan, S., ... Sahakyan N., ... 2022, Gamma-ray observations of MAXI J1820+070 during the 2018 outburst. *Monthly Notices of the Royal Astronomical Society* 517, 47364751. doi:10.1093/mnras/stac2686
- MAGIC Collaboration, Adams C., Batista P., ... Gasparyan, S., ... Sahakyan N., ... 2022, Multiwavelength Observations of the Blazar VER J0521+211 during an Elevated TeV Gamma-Ray State, *The Astrophysical Journal* 932. doi:10.3847/1538-4357/ac6dd9

- MAGICCollaboration, Acciari V., Ansoldi S., ..., Gasparyan, S., ..., Sahakyan N., ..., 2022, Proton acceleration in thermonuclear nova explosions revealed by gamma rays. *Nature Astronomy* 6, 689697. doi:10.1038/s41550-022-01640-z
- MAGICCollaboration, Acciari V., Ansoldi S., ..., Gasparyan, S., ..., Sahakyan N., ..., 2022, Multi-epoch monitoring of TXS 0506+056 with MAGIC and MWL partners. 37th International Cosmic Ray Conference. doi:10.22323/1.395.0875
- MAGICCollaboration, Acciari V., Ansoldi S., ..., Gasparyan, S., ..., Sahakyan N., ..., 2022, Multiwavelength variability and correlation studies of Mrk421 during historically low X-ray and  $\gamma$ -ray activity in 2015–2016. 37th International Cosmic Ray Conference. doi:10.22323/1.395.0866
- MAGICCollaboration, Acciari V., Ansoldi S., ..., Gasparyan, S., ..., Sahakyan N., ..., 2022. Combined searches for dark matter in dwarf spheroidal galaxies observed with the MAGIC telescopes, including new data from Coma Berenices and Draco. *Physics of the Dark Universe* 35. doi:10.1016/j.dark.2021.100912
- MAGICCollaboration, Acciari V., Ansoldi S., ..., Gasparyan, S., ..., Sahakyan N., ..., 2022, Multiwavelength study of the gravitationally lensed blazar QSO B0218+357 between 2016 and 2020. *Monthly Notices of the Royal Astronomical Society* 510, 23442362. doi:10.1093/mnras/stab3454
- Rueda J., Ruffini R., Li L., Moradi R., Sahakyan, N., Wang Y., 2022. The white dwarf binary merger model of GRB 170817A, *International Journal of Modern Physics D* 31. doi:10.1142/S0218271822300130
- Sahakyan N., Modelling the broad-band emission of 3C 454.3, *Monthly Notices of the Royal Astronomical Society*, Volume 504, Issue 4, pp.5074-5086, 2021
- Sahakyan N., Giommi P., The strange case of the transient HBL blazar 4FGL J1544.3-0649, *Monthly Notices of the Royal Astronomical Society*, Volume 502, Issue 1, pp.836-844, 2021
- Giommi P., Perry M., Capalby M., ..., Sahakyan N., Israyelyan D., Turriziani S., X-ray spectra, light curves and SEDs of blazars frequently observed by Swift, *Monthly Notices of the Royal Astronomical Society*, Volume 507, Issue 4, pp.5690-5702, 2021

- Ruffini R, Moradi R., Rueda J.A, Li L., Sahakyan N....., The morphology of the X-ray afterglows and of the jetted GeV emission in long GRBs, Monthly Notices of the Royal Astronomical Society, Volume 504, Issue 4, pp.5301-5326, 2021
- Adams C., Benbow W.,.... Gasparyan, S.,...Sahakyan N.,....., Observation of the Gamma-Ray Binary HESS J0632+057 with the H.E.S.S., MAGIC, and VERITAS Telescopes, The Astrophysical Journal, Volume 923, Issue 2, id.241, 30 pp., 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,....., Search for Very High-energy Emission from the Millisecond Pulsar PSR J0218+4232, The Astrophysical Journal, Volume 922, Issue 2, id.251, 14 pp., 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,....., Multiwavelength study of the gravitationally lensed blazar QSO B0218+357 between 2016 and 2020, Monthly Notices of the Royal Astronomical Society, 10.1093/mnras/stab3454, 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,....., Investigation of the correlation patterns and the Compton dominance variability of Mrk 421 in 2017, Astronomy & Astrophysics, Volume 655, id.A89, 36 pp., 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,....., First detection of VHE gamma-ray emission from TXS 1515-273, study of its X-ray variability and spectral energy distribution, Monthly Notices of the Royal Astronomical Society, Volume 507, Issue 1, pp.1528-1545, 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,....., Multiwavelength variability and correlation studies of Mrk 421 during historically low X-ray and  $\gamma$ -ray activity in 2015-2016, Monthly Notices of the Royal Astronomical Society, Volume 504, Issue 1, pp.1427-1451, 2021
- Algaba J, Anczarski J., Sahakyan N.....Broadband Multi-wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign, The Astrophysical Journal Letters, Volume 911, Issue 1, id.L11, 43 pp., 2021
- Abdalla H., Adam R, ..., Sahakyan N., H.E.S.S. and MAGIC observations of a sudden cessation of a very-high-energy  $\gamma$ -ray flare in PKS 1510-089 in May 2016, Astronomy & Astrophysics, Volume 648, id.A23, 22 pp., 2021

- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,..., VHE gamma-ray detection of FSRQ QSO B1420+326 and modeling of its enhanced broadband state in 2020, *Astronomy & Astrophysics*, Volume 647, id.A163, 19 pp., 2021
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,..., MAGIC Observations of the Nearby Short Gamma-Ray Burst GRB 160821B, *The Astrophysical Journal*, Volume 908, Issue 1, id.90, 11 pp., 2021
- Sahakyan N., Israyelyan D., Harutyunyan G., Khachatryan M., Gasparyan S., Multiwavelength study of high-redshift blazars, *Monthly Notices of the Royal Astronomical Society*, olume 498, Issue 2, 2020, p.2594-2613.
- Sahakyan N., Broad-band study of high-synchrotron-peaked BL Lac object 1ES 1218+304, *Monthly Notices of the Royal Astronomical Society*, Volume 496, Issue 4, 2020, pp.5518-5527
- Sahakyan, N., Investigation of the  $\gamma$ -ray spectrum of CTA 102 during the exceptional flaring state in 2016-2017, *Astronomy & Astrophysics*, Volume 635, id.A25, 2020, 10 pp.
- Sahakyan N., Israyelyan D., Harutyunyan G., A Multiwavelength Study of Distant Blazar PKS 0537-286, *Astrophysics*, volume 63, 2020, p. 459–469
- Sahakyan N., Harutyunyan G., Israelyan D., Khachatryan M., Exploring the Origin of Multiwavelength Emission from High-Redshift Blazar B3 1343 + 451, *Astrophysics*, Volume 63, Issue 3, 2020, p.334-348
- Giommi P., Chang Y., Turriziani S., Glauch T., Leto C., Verrecchia F., Padovani P., Penacchioni A., Arneodo F., Barres de Almeida U., Brandt C., Capalbi M., Civitaresse O., D'Elia V., Di Giovanni A., De Angelis M., Del Rio Vera J., Di Pippo S., Middei R., Perri M., Pollock A., Puccetti S., Ricard N., Ruffini R., Sahakyan N., Open Universe survey of Swift-XRT GRB fields: Flux-limited sample of HBL blazars, *Astronomy & Astrophysics*, Volume 642, id.A141, 2020, 9 pp.
- Sahakyan N., High Energy  $\gamma$ -ray variability of NGC 1275 and 3C 120, *Proceedings of the International Astronomical Union*, Volume 342, 2020, pp. 172-175
- MAGIC Collaboration, VERITAS Collaboration, Abeysekera, A., Benbow, W.,.... Gasparyan, S.,...Sahakyan N.,.... Villata, M., The Great Markarian 421 Flare of 2010 February:

Multiwavelength Variability and Correlation Studies, *The Astrophysical Journal*, Volume 890, Issue 2, id.97, 2020, 21 pp.

- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Zarić, D., The Great Markarian 421 Flare of 2010 February: Multiwavelength Variability and Correlation Studies, *Astronomy & Astrophysics*, Volume 635, id.A158, 2020, 10 pp.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Lohfink A., New Hard-TeV Extreme Blazars Detected with the MAGIC Telescopes, *The Astrophysical Journal Supplement Series*, Volume 247, Issue 1, id.16, 2020, 24 p.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Walker R., Monitoring of the radio galaxy M 87 during a low-emission state from 2012 to 2015 with MAGIC, *Monthly Notices of the Royal Astronomical Society*, Volume 492, Issue 4, 2020, p.5354-5365
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Tammi J., Study of the variable broadband emission of Markarian 501 during the most extreme Swift X-ray activity, *Astronomy & Astrophysics*, Volume 637, id.A86, 2020, 27 pp.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Zarić, D., A search for dark matter in Triangulum II with the MAGIC telescopes, *Physics of the Dark Universe*, Volume 28, article id. 100529, 2020.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Zarić, D., Broadband characterisation of the very intense TeV flares of the blazar 1ES 1959+650 in 2016, *Astronomy & Astrophysics*, Volume 638, id.A14, 2020, 16 pp.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Reinthal R., Unraveling the Complex Behavior of Mrk 421 with Simultaneous X-Ray and VHE Observations during an Extreme Flaring Activity in 2013 April, *The Astrophysical Journal Supplement Series*, Volume 248, Issue 2, 2020, id.29
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,....Sahakyan N.,.... Zheng W., An intermittent extreme BL Lac: MWL study of 1ES 2344+514 in an enhanced state, *Monthly Notices of the Royal Astronomical Society*, Volume 496, Issue 3, 2020, pp.3912-3928

- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,.... Zarić, D., Studying the nature of the unidentified gamma-ray source HESS J1841-055 with the MAGIC telescopes, *Monthly Notices of the Royal Astronomical Society*, Volume 497, Issue 3, 2020, p. 3734-3745
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,.... Zarić, D., Bounds on Lorentz Invariance Violation from MAGIC Observation of GRB 190114C, *Physical Review Letters*, Volume 125, Issue 2, 2020, article id.021301
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,.... Kehusmaa P., Testing two-component models on very high-energy gamma-ray-emitting BL Lac objects, *Astronomy & Astrophysics*, Volume 640, id.A132, 2020, 29 pp.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,.... Zarić, D., MAGIC observations of the diffuse  $\gamma$ -ray emission in the vicinity of the Galactic center, *Astronomy & Astrophysics*, Volume 642, id.A190, 2020, 9 pp.
- MAGIC Collaboration, Acciari V., Ansoldi S.,.... Gasparyan, S.,...Sahakyan N.,.... Saz Parkinson P., Detection of the Geminga pulsar with MAGIC hints at a power-law tail emission beyond 15 GeV, *Astronomy & Astrophysics*, Volume 643, id.L14, 2020, 6 p.
- Sahakyan N., Investigation of the Gamma-ray Spectrum of CTA 102 During the Exceptional Flaring State in 2016-2017, *Astronomy and Astrophysics*, Volume 635, id.A25, 2020, 10 pp..
- Giommi P., Brandt C., Barres de Almeida U., Pollock A., Arneodo F., Chang Y., Civitaresse O., De Angelis M., D'Elia V., Del Rio Vera J., Di Pippo S., Middei R., Penacchioni A., Perri M., Ruffini R., Sahakyan N., Turriziani S., Open Universe for Blazars: a new generation of astronomical products based on 14 years of Swift-XRT data, *Astronomy and Astrophysics*, Volume 631, 2019, id.A116, 11 pp.
- Rueda J., Ruffini R., Wang Y., Bianco C., Blanco-Iglesias J., Karlica M., Lorén-Aguilar P., Moradi R., Sahakyan N., Electromagnetic emission of white dwarf binary mergers, *Journal of Cosmology and Astroparticle Physics*, Issue 03, 2019, id. 044.
- Glauch T., Padovani P., Giommi P., Resconi E., Arsioli B., Sahakyan N., Huber M., Dissecting the region around IceCube-170922A: the blazar TXS 0506+056 as the first cosmic neutrino source, *EPJ Web of Conferences*, Volume 207, 2019, id.02003.

- Gasparyan, S., Modeling The Multiwavelength Spectra of Blazars, *Armenian Journal of Physics*, 12 (1), 2019, pp. 83-95
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Teraelectronvolt emission from the  $\gamma$ -ray burst GRB 190114C, *Nature*, Volume 575, Issue 7783, 2019, p.455-458.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Observation of inverse Compton emission from a long  $\gamma$ -ray burst, *Nature*, Volume 575, Issue 7783, 2019, p.459-463.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Testing emission models on the extreme blazar 2WHSP J073326.7+515354 detected at very high energies with the MAGIC telescopes, *Monthly Notices of the Royal Astronomical Society*, Volume 490, Issue 2, 2019, p.2284-2299.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Deep observations of the globular cluster M15 with the MAGIC telescopes, *Monthly Notices of the Royal Astronomical Society*, Volume 484, Issue 2, 2019, p.2876-2885.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Measurement of the extragalactic background light using MAGIC and Fermi-LAT gamma-ray observations of blazars up to  $z = 1$ , *Monthly Notices of the Royal Astronomical Society*, Volume 486, Issue 3, 2019, p.4233-4251.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., Constraints on Gamma-Ray and Neutrino Emission from NGC 1068 with the MAGIC Telescopes, *The Astrophysical Journal*, Volume 883, Issue 2, 2019, id. 135, 9 pp.
- MAGIC Collaboration; Acciari V.,...Gasparyan S.,.....Sahakyan N.,....., New hard-TeV extreme blazars detected with the MAGIC telescopes, Accepted for publication in *Astrophysical Journal Supplement*, arXiv:1911.06680.
- Padovani P., Giommi P., Resconi E., Glauch T., Arsioli B., Sahakyan N., Huber M., Dissecting the region around IceCube-170922A: the blazar TXS 0506+056 as the first cosmic neutrino source, *Monthly Notices of the Royal Astronomical Society*, Volume 480, Issue 1, 2018, p.192-203.



- Ruffini R., Karlica M., Sahakyan N., Rueda J., Wang Y., Mathews G., Bianco C., Muccino M., A GRB Afterglow Model Consistent with Hypernova Observations, *The Astrophysical Journal*, Volume 869, Issue 2, 2018, id. 101, 9 pp.
- Aartsen M., Ackermann M.....Sahakyan N., Yuan, T., Neutrino emission from the direction of the blazar TXS 0506+056 prior to the IceCube-170922A alert, *Science*, Volume 361, Issue 6398, 2018, pp. 147-151.
- Sahakyan, N., Lepto-hadronic  $\gamma$ -Ray and Neutrino Emission from the Jet of TXS 0506+056, *The Astrophysical Journal*, Volume 866, Issue 2, 2018, id. 109, 6 pp.
- Gasparyan S., Sahakyan N., Baghmanyan V., Zargaryan D., On the Multiwavelength Emission from CTA 102, *The Astrophysical Journal*, Volume 863, Issue 2, 2018, article id. 114, 11 pp.
- Sahakyan N., Baghmanyan V., Zargaryan, D., Fermi-LAT observation of nonblazar AGNs, *Astronomy & Astrophysics*, Volume 614, 2018, id.A6, 11 pp.
- Baghmanyan V., Tumanyan M., Sahakyan N., Vardanyan, Y., High-Energy  $\gamma$  -Ray Emission from PKS 0625-35, *Astrophysics*, Volume 61, Issue 2, 2018, pp.160-170.
- Fraga B., Barres de Almeida U., Gasparyan S., Giommi P., Sahakyan N., Time-Evolving SED of MKN421: a multi-band view and polarimetric signatures, *Frontiers in Astronomy and Space Sciences*, Volume 5, 2018, id.1.
- Zargaryan D., Sahakyan N., Harutyunian H., Chandra observations of gamma-ray emitting radio galaxies, *International Journal of Modern Physics D*, Volume 27, Issue 10, 2018, id. 1844022.
- Gasparyan S., Sahakyan N., Chardonnet P., The origin of HE and VHE gamma-ray flares from FSRQs, *International Journal of Modern Physics D*, Volume 27, Issue 10, 2018, id. 1844007.
- Baghmanyan V., Sahakyan N., X-ray and  $\gamma$ -ray emissions from NLSy1 galaxies, *International Journal of Modern Physics D*, Volume 27, Issue 10, 2018, id. 1844001.
- MAGIC Collaboration, VERITAS Collaboration, Abeysekera, A., Benbow, W.,..... Gasparyan, S.,...Sahakyan N.,.... Zarić D., Periastron Observations of TeV Gamma-Ray Emission from a

- Binary System with a 50-year Period, *The Astrophysical Journal Letters*, Volume 867, Issue 1, article id. L19, 2018, 8 pp.
- Zargaryan, D., Gasparyan, S., Baghmanyanyan, V., Sahakyan, N., «Comparing 3C 120 jet emission at small and large scales», *Astronomy & Astrophysics*, Volume 608, 2017, id.A37, pp 10 pp.
  - Baghmanyanyan, V., Gasparyan, S., Sahakyan, N., «Rapid Gamma-Ray Variability of NGC 1275», *The Astrophysical Journal*, Volume 848, Issue 2, 2017, 111, 8pp.
  - Sahakyan, N., Gasparyan, S., «High energy gamma-ray emission from PKS 1441+25», *Monthly Notices of the Royal Astronomical Society*, Volume 470, Issue 3, 2017, p.2861-2869.
  - Barres de Almeida, U., Fraga, B., Giommi, P., Sahakyan, N., Gasparyan, S., Brandt, C., «Long-Term Multi-Band and Polarimetric View of Mkn 421: Motivations for an Integrated Open-Data Platform for Blazar Optical Polarimetry», *Galaxies*, vol. 5, issue 4, 2017, p. 90.
  - N. Sahakyan, V. Baghmanyanyan, D. Zargaryan, Gamma-ray emission from non-blazar AGNs, *AIP Conference Proceedings* 1792, 050002, 2017 <http://doi.org/10.1063/1.4968948>.
  - N. Sahakyan, S. Gasparyan, High energy gamma-rays from PKS 1441+25, *AIP Conference Proceedings* 1792, 050005, 2017, <http://doi.org/10.1063/1.4968951>.
  - D. Zargaryan, The gamma-ray emission from broad-line radio galaxy 3C 120, *AIP Conference Proceedings* 1792, 050008, 2017, <http://doi.org/10.1063/1.4968954>.
  - V. Baghmanyanyan, Gamma-ray variability of NGC 1275, *AIP Conference Proceedings* 1792, 050007, 2017, <http://doi.org/10.1063/1.4968953>.
  - N. Sahakyan, Galactic sources of high energy neutrinos: Expectation from gamma-ray data, *EPJ Web of Conferences*, Volume 121, id.05005, 2016.
  - N. Sahakyan, D. Zargaryan and V. Baghmanyanyan, On the gamma-ray emission from 3C 120, *Astronomy & Astrophysics*, Volume 574, id.A88, 5 pp., 2015.
  - N. Sahakyan, R. Yang, F. Rieger, F. Aharonian, E. de Ona-Wilhelmi, High Energy Gamma Rays from Centaurus A, *Proceedings of the MG13 Meeting on General Relativity*, World Scientific Publishing, 2015. ISBN #9789814623995, pp. 1028-1030.

- N. Sahakyan, F. Rieger, F. Aharonian, R. Yang, E. de Ona-Wilhelmi, On the Gamma-Ray Emission from the Core and Radio Lobes of the Radio Galaxy Centaurus a, *International Journal of Modern Physics: Conference Series*, Volume 28, id. 1460182, 2014.
- N. Sahakyan, G. Piano, M. Tavani, Hadronic Gamma-Ray and Neutrino Emission from Cygnus X-3, *The Astrophysical Journal*, Volume 780, Issue 1, article id. 29, 7 pp., 2014.
- N. Sahakyan, R. Yang, F. Aharonian, F. Rieger, Evidence for a Second Component in the High-energy Core Emission from Centaurus A?, *The Astrophysical Journal Letters*, Volume 770, Issue 1, article id. L6, 5 pp., 2013.
- R. Yang, N. Sahakyan, E. de Ona Wilhelmi, F. Aharonian, F. Rieger, Deep observation of the giant radio lobes of Centaurus A with the Fermi Large Area Telescope, *Astronomy & Astrophysics*, Volume 542, id.A19, 8 pp., 2012.

## Visit of H.E. Alfonso Di Riso, Ambassador of Italy in Armenia, to the ICRANet Armenia Seat, November 30, 2021



H.E. Alfonso Di Riso, Ambassador of Italy in Armenia with Prof. Narek Sahakyan, Director of ICRANet Seat in Armenia, visiting the center on Tuesday November 30, 2021

On November 30, 2021, the Ambassador Extraordinary and Plenipotentiary of Italy to Armenia, H.E. Alfonso Di Riso and the Head of the Consular and Administrative Department, Dr Annarosa Colangelo, visited the ICRANet Armenia Seat, located at the National Academy of Sciences of the Republic of Armenia.

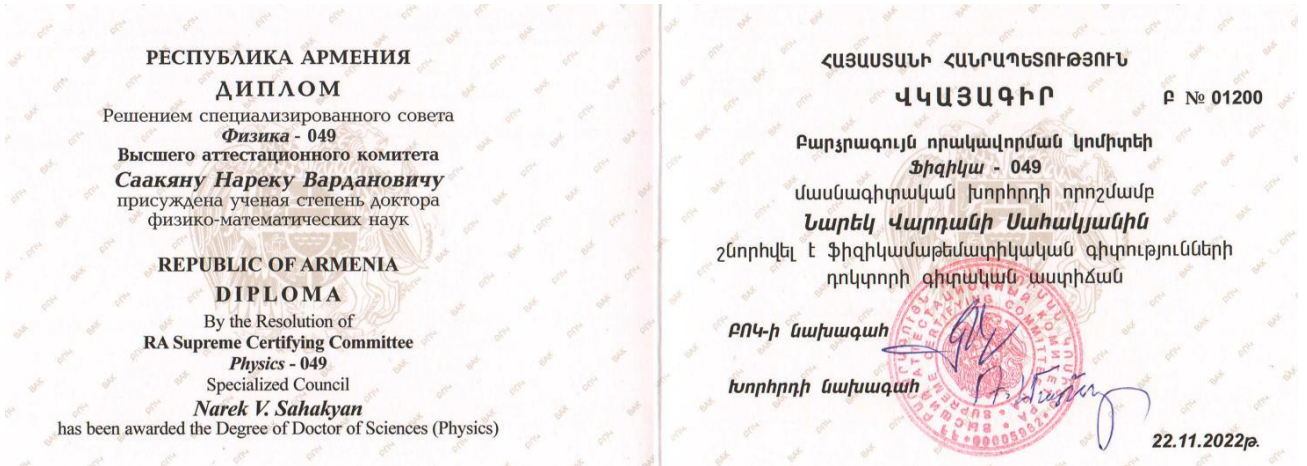
Prof. Narek Sahakyan, Director of the ICRANet Seat in Armenia, presented the center and its current activities as well as the main research topics and the obtained results. Also, the current projects implemented with the ICRANet center in Pescara have been presented and discussed. The importance of the ICRANet Armenia center to expand the activities of ICRANet in the regional countries was highlighted and discussed.

Both parties strongly highlighted the importance of the Armenian-Italian scientific cooperation in the field of astrophysics and discussed the possibilities of further develop and expand the Armenian-Italian scientific cooperation.

Press Release by the National Academy of Sciences of Armenia (in Armenian):

<https://www.sci.am/newsview.php?id=454&arch=&langid=2>

# Director of ICRANet-Armenia and ICRANet Faculty Professor Narek Sahakyan awarded the Doctor of Sciences (DSc) degree in physics



On November 22, 2022, the Director of ICRANet-Armenia Narek Sahakyan has been awarded the Doctor of Sciences (D Sc) degree in physics, as announced by the Higher Attestation Commission (VAK) of Armenia (<https://www.bok.am/en/node/14246>). His dissertation "Study of multiwavelength and neutrino emission from blazars" has been successfully defended on the June 25, 2022.

Professor Sahakyan has so become one of the few young Armenian researchers, awarded of this highest scientific degree in his country under the age of 40.

On December 22, 2022 ICRANet Armenia PhD student David Israyelyan successfully defended his PhD thesis "Investigation of UV and X-ray properties of blazars"

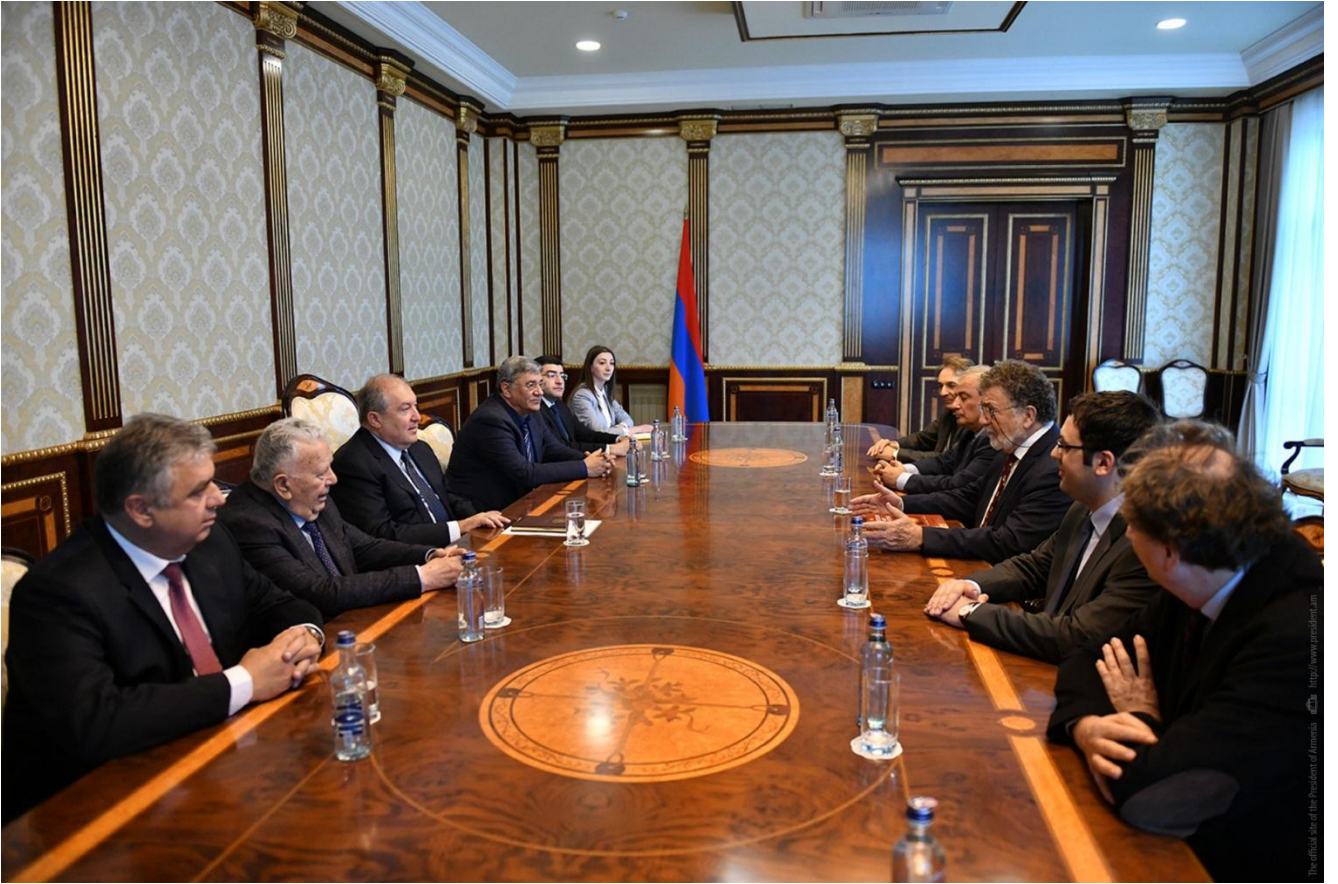




# Meeting with the President of Republic of Armenia







## *Meeting with the Foreign Minister of the Republic of Armenia*

On June 10, the Minister of Foreign affairs of the Republic of Armenia Edward Nalbandian hosted Prof. Remo Ruffini, the Director of International Centre for Relativistic Astrophysics (ICRA) Network and the delegation headed by him. The President of the National Academy of Sciences of Armenia, Academician Radik Martirosyan and Ambassadors of the Network's founding countries Italy and Brazil, H.E. Mr. Giovanni Ricciulli and H.E. Edson Marinho Duarte Monteiro also attended the meeting. Welcoming the guests, Minister Nalbandian mentioned, that the membership to the ICRANet proves the importance which Armenia gives to the development of Astrophysics. Expressing gratitude for the reception, Professor Ruffini emphasized that, the geographic location of Armenia and achievements in astrophysics allows to play an important role in the development of Astrophysics in the neighboring countries. During the meeting, the recent activities of ICRANet were discussed.







## *Meeting with the President of the National Assembly of Armenia*



On July 3, 2014 the President of National assembly of the Republic of Armenia Galust Sahakyan met with Prof. Remo Ruffini, Director of the International Centre for Relativistic Astrophysics (ICRA) Network, Massimo Della Valle, Director of Naples Astronomical Observatory, and Narek Sahakyan, Head of ICRANet Armenia, who were participating in the first international meeting of the Relativistic Astrophysics International Centre Network in Yerevan from June 30 to July 4. Welcoming the guests, the NA President highlighted the role of science in the development of our country, considering Armenia's membership to the ICRA Network jointly with Italy, Brazil and Vatican an honour. Emphasizing the conduct of the conference in Yerevan, Galust Sahakyan has noted that the current level of research and studies in the field of Astrophysics in Armenia are based on deep scientific traditions and potential. He highly assessed the role of the ICRA Network Regional Center, which can be of major importance.

Expressing gratitude for the reception, Prof. Remo Ruffini highly appreciated Armenia's membership to the ICRANet and underlined the importance of such meetings, during which numerous discoveries are made and noted several big scientific discoveries had been made during the conference.

# Meetings in Armenia

## **Armenian-Italian Science Day** **"Joint ICRANet activities in Relativistic Astrophysics"**

*Information Event for Cooperation in the field of Relativistic Astrophysics  
between Armenia and ICRANet*

**Monday April 15, 2019**  
**Yerevan, Armenia**

**Program** | **Photos and Videos** | **Press releases**

### **Venues:**

*Morning session  
from 10:00 AM*

**RA National Academy of Sciences**  
24, Marshall Baghramian Ave.  
0019 Yerevan



*Afternoon session  
from 03:00 PM*

**Italian Embassy in Yerevan**  
5 Italia Street  
0010 Yerevan









NASRA



ICRANet

**Armenian-Italian Science Day  
“Joint ICRANet activities in Relativistic Astrophysics”**

Information Event for Cooperation in the field of Relativistic Astrophysics  
between Armenia and ICRANet

**Monday, April 15, 2019, Yerevan**

The working languages of the event are Armenian and English

Venue: RA National Academy of Sciences

24, Marshall Baghramian Ave. 0019 Yerevan

10:00 ***Opening and welcome addresses***

*Moderator: Amb. Ashot Kocharian*

10:00 Artak Apitonian, Deputy Minister of Foreign Affairs RA

10:05 Radik Martirosyan, President of the RA National Academy of Sciences (host institution)

10:10 Samvel Haroutiunian, Chairman of the RA MES Science Committee

10:15 Vardan Sahakyan, Deputy Chairman of the RA MES Science Committee

10:20 Vincenzo Del Monaco, Ambassador of Italy to Armenia

10:25 Agemar de Mendonça Sanctos, Ambassador of Brazil to Armenia

10:30 Matthias Kiesler, Ambassador of Germany to Armenia

10:35 Remo Ruffini, Director of ICRANet





# *1st Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe*

In 2014 an international conference in Yerevan was organized in Yerevan with the participation of more than 80 scientists from Italy, Germany, France, Brazil, Korea, Iran and Armenia. The conference opening ceremony was attended by the President of NAS RA, academician R. Martirosyan, Academician-Secretary of the Division of Physics and Astrophysics of NAS RA Y. Chilingaryan, Deputy Minister of Foreign Affairs of RA G. Nazarian, the Ambassador of Italy to the Republic of Armenia G. Ricciulli, the Ambassador of the Federative Republic of Brazil to the Republic of Armenia E. M. D. Monteiro, the Ambassador of Vatican to RA Monsignor Marek Sozinski.







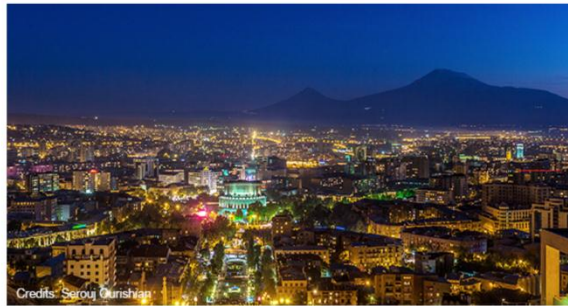
# MAGIC collaboration meeting in Yerevan

## MAGIC Collaboration Meeting Yerevan 2019

23-28 June 2019  
Ramada Hotel  
Asia/Yerevan timezone

See the group photos in 'Material'

Overview
Timetable
Contribution List
Registration
Participant List
Accommodation
Travel
Social Events
Conference Fee
Tour Options (before/after the meeting)
Local Information



The MAGIC collaboration meeting was held in Yerevan from 23 to 28 June 2019 with 60 participants from different countries.





An official reception was held on June 27 in Yerevan, during the MAGIC collaboration meeting. In this occasion, both MAGIC and LST1 scientific highlights and high-tech solutions were presented to the Minister of Education, Science, Culture and Sport Arayik Harutyunyan and to Radik Martirosyan, President of the National Academy of Sciences of Armenia





## Visit to Iran





