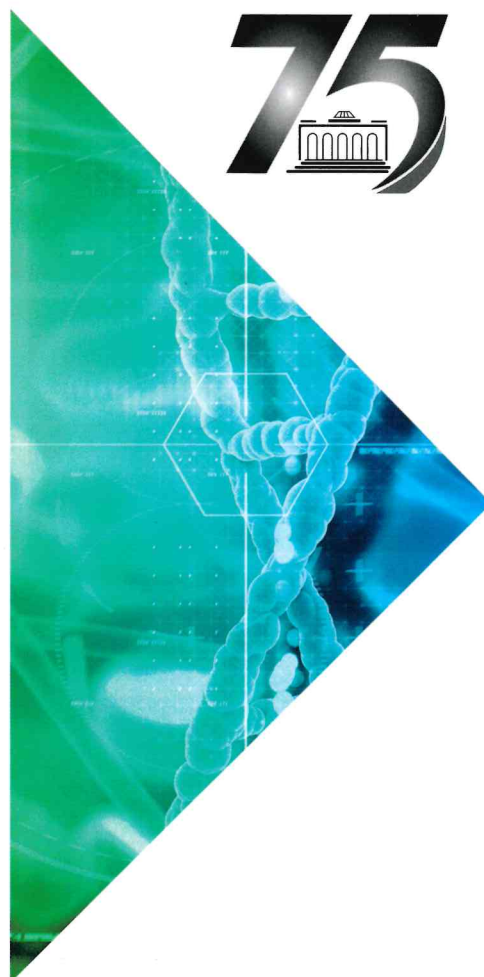
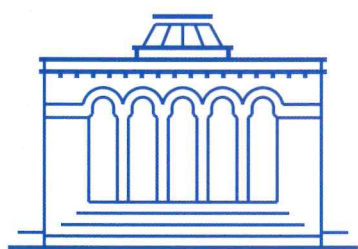


75

**NATIONAL ACADEMY
OF SCIENCES
OF THE REPUBLIC OF ARMENIA**





ON THE ESTABLISHMENT OF THE ACADEMY OF SCIENCES OF THE ARMENIAN SSR

ON THE ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

With regard to the widespread network of R&D establishments in Armenia in the years of the Soviet Authority as well as to the growth of highly trained scientific personnel and their fruitful work on developing the economy and the culture of the Armenian SSR, as well as on improving the country's defense capabilities, the Council of People's Commissars of the Armenian SSR issues a ruling:

1. To establish the Academy of Sciences of the Armenian SSR in the City of Yerevan, Capital of Armenia, on the basis of the Armenian Affiliation of the USSR AS, with the purpose of consolidating the leadership of R&D companies of the Republic in a single governing scientific center and in the interests of a further targeted development of scientific work.

2. The first core of Full Members of the Academy of Sciences of the Armenian SSR is determined at 23 members.

The Academy of Sciences of the Republic of Armenia is to be renamed "The National Academy of Sciences of the Republic of Armenia" (NAS RA).

NAS RA, funded by the State, is a self-governing scientific institution joining together academy members, scientists and foreign members of the System, coordinating the basic research conducted in the country, and effecting their expert examination. The Academy generates its own approaches to the State-issued programs of basic research, to the concept of an integrated policy as regards science and technology, taking part in their implementation guided by the Law of the Republic of Armenia and the Constitution of the Academy.

NAS RA is an official scientific adviser to the Government of the Republic, its propositions and guidelines are to be mandatory discussed.

*From the Directive of the
 Council of People's Commissars,
 Armenian SSR N702 as of November 10, 1943*

*From the Decree by the President of
 the Republic of Armenia as of 09.03.1993*

CONTENTS

INTRODUCTION	4
PRESIDENTS	5
A BRIEF HISTORICAL REVIEW	6
PRESIDIUM	8
THE STRUCTURE OF THE ACADEMY	9
DIVISIONS OF SCIENCES	10
Division of Mathematical and Technical Sciences	11
Division of Physics and Astrophysics	16
Division of Natural Sciences	25
Division of Chemical and Earth Sciences	34
Division of Armenology and Social Sciences	40
INSTITUTIONS UNDER PRESIDUM	51
International Scientific - Educational Centre	51
Fundamental Scientific Library	51
National Bureau of Expertises	53
"Gitutiun" Publishing House	54
DEPARTMENT OF INTERNATIONAL RELATIONS	55
DEPARTMENT OF INTERNATIONAL S&T PROGRAMS	56
DEPARTMENT OF DIASPORA	57
DEPARTMENT OF APPLIED PROJECTS	58



INTRODUCTION

The National Academy of the Republic of Armenia is one of the everlasting values that have been created by the Armenian Nation during the centuries-old history of her existence incorporating her eternal craving for science and culture, which, apart from warranting her progress, is a powerful instrument of survival

During the 75 years of its existence NAS RA has played a significant role in consolidating the defensive capabilities of both Armenia and the USSR as well as in developing their economic potential, and, what is nonetheless important, in the establishment of an advanced society. The Academy has drawn an enormously responsible lot these days in the newly independent Armenia prioritizing the knowledge-based economy and society. Development of new trends in the world community today is associated with expanding cooperation among different countries and is aimed at resolving the global problems confronting mankind: protecting the environment, raising the standard of living and human health. Scientists and engineers join forces in locating and using new sources of energy, space exploration, and common cyberspace issues. Strategic development of science gives right of way to the research ensuring coexistence of the world community, its security and sustainable development.

To prioritize the role of science as a crucial factor of progress, the relations among R&D entities, State and the Public have been largely reviewed. There is a need to concentrate the human and material resources around the fields of science based upon traditions and supported by the scientific personnel, so that they could be definitely realized within reasonable periods of time. Optimization of the system is a crucial part of the reformation process; it is aimed at joining the potential of thematically close companies, at establishing scientific centers as well as those of science and technology for targeted usage of available capabilities and for resolving complex objectives.

Steps have been taken to liberalize the management by scientists electing the top officials. A primary goal of science is massive issue of top-level young professionals, their principal suppliers being the universities. NAS RA is an active promoter of integrating science and education, forming novel infrastructures perfecting the higher education and boosting involvement of the state in developing science and technology.

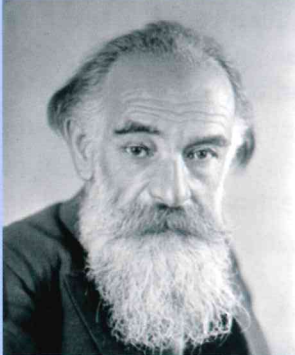
R.M. Martirosyan

President of NAS RA, academician



PRESIDENTS

THE ARMENIAN AFFILIATION OF THE AS USSR (1935-1943) THE ACADEMY OF SCIENCES OF THE ARM.SSR (1943-1992)



HOVSEP ABGAR ORBELI
(20.03.1887 – 02.02.1961)

1938-1943 – Chairman of Arm. FAS USSR

1943-1947 – The First President of AS Arm.SSR

Speciality: oriental studies, Caucasus studies, archeology, philology



VICTOR HAMAZASP AMBARTSUMIAN
(18.09.1908 – 12.08.1996)

1947-1993 – President of AS Arm.SSR

Speciality: theoretical astronomy, astrophysics

NATIONAL ACADEMY OF SCIENCES (SINCE 1992)



FADEY TACHAT SARGSYAN
(18.09.1923 – 10.01.2010)

1993-2006 – President of NAS RA

Speciality: electronic engineering, automated control systems



RADIK MARTIROS MARTIROSYAN
(01.05.1936)

Since 2006 – President of NAS RA

Speciality: quantum radiophysics,
applied problems of superconductivity, radioastronomy



A BRIEF HISTORICAL REVIEW

The National Academy of Sciences of Armenia is the top scientific institution of the Republic, based upon centuries-old original fruitful historical, scholarly, cultural and educational knowledge and traditions of the Armenian Nation, it is called upon to consolidate the efforts by the scientists to do basic research in many fields of science, to identify and to reconsider the spiritual legacy of the Nation in order to effect national security as well as social and economic problems.

The first cultural, educational and scientific center of the Republic was Yerevan State University, temporarily established in Alexandropol in 1919. In the years of the First Republic of Armenia the University deployed research in culture, history and economics.

In the very first years of the Second Republic in 1921, an Institute of Culture and History was established in Echmiadzine, to be renamed in 1925 as the Institute of Science and Culture, an entity of an academic trend aiming at developing natural, technical sciences and the humanities. Later, Institutes were established on protection of vegetation, on construction and building materials, geology, balneotherapy, a seismic station and a number of other scientific enterprises.

In 1935, on the bases of the mentioned R&D institutions the Armenian Branch of the USSR Academy of Sciences was established chaired by academician Franz Julievich Levinson-Lessing.

In 1938 the top scientist of the branch was Hovsep Orbeli. Work started on developing physics, mathematics, natural, technical and humanitarian sciences, whereby Armenia became a large center of Armenian Studies.

On November 10, 1943, a decree by the Government of Arm.SSR established the Academy of Sciences of Arm.SSR, with 23 noted academicians including M. Abeghian, brothers Alikhanian, R. Acharian, Av. Isahakian, V. Ambartsumian, brothers Orbeli, et al. The first elected president was Hovsep Orbeli, an outstanding scholar, historian and orientalist.



In 1947 a new President of the Academy of Sciences of Arm.SSR was elected – Victor Ambartsumian, a scientist of a world-wide recognition, the founder of theoretical astrophysics

In the years of Soviet rule the Academy effected crucial research of worldwide significance in the fields of astrophysics, information technology, applied mathematics and mechanics, physics, chemistry, biology, Armenology studies and a number of other trends of science and scholarship.

Following the declaration of the Third Republic in 1992, the AS Arm.SSR was renamed to the National Academy of Sciences of the Republic of Armenia.

1993 saw the election of Fadey Sarkisian as President of NAS RA, during his reign reforms were affected aimed at preservation of the Academy, the Law of RA was adopted “On Science and Scentific and Technical Activity”, and the NAS RA was awarded the status of an Official Advisor of the RA Government.

In 2006 academician Radik Martirosian, a widely recognized scientist in the field of radiophysics, was elected President of NAS RA.

In 2008, the Armenian Nation solemnly celebrated the 100th Anniversary of the outstanding scientist and patriot of Armenia, President of NAS RA during almost half-a-century, academician V.A. Ambartsumian.

In 2010, an International Prize was established in commemoration of academician V.A. Ambartsumian.

In 2011, to enhance the capabilities for object-oriented use of the scientific and technical potential and for using the findings of basic sciences in applied projects, the President of the Republic initiated development of the Law on the National Academy of Republic of Armenia, which was approved by the National Assembly 04.14.2011.

Currently, the Academy continues to develop various branches of science and records significant achievements, effectively cooperates with universities and state structures of the Republic, as well as with international scientific organizations, actively participates in numerous international programs.





A SESSION OF THE PRESIDUM



MEMBERS OF THE PRESIDUM

left to right: academician **Yu.M.Suvaryan** (Academician-Secretary of the Division of Armenology and Social Sciences), academician **Yu.H.Shoukourian** (Vice-President NAS RA), academician **R.M.Martirosyan** (President NAS RA), corresponding member **H.H.Matevosyan** (Academician-Secretary NAS RA), academician **G. S. Ghazinyan**, academician **A.S. Saghyan**, corresponding member **A.H.Simonyan**, academician **G.A.Pogosyan**, academician **L.A.Tavadyan** (Academician-Secretary of the Division of Chemical and Earth Sciences), corresponding member **R. M. Aroutiounian** (Academician-Secretary of the Division of Natural Sciences), academician **L.A.Agalovyan** (Academician - Secretary of the Division of Mathematical and Technical Sciences), corresponding member **A. A. Hakhoumian**, academician **E.M.Kazaryan**, academician **R.B.Kostanyan** (Academician-Secretary of the Division of Physics and Astrophysics)

THE STRUCTURE OF THE ACADEMY

GENERAL MEETING

PRESIDIUM

PRESIDENT

VICE-PRESIDENT

ACADEMICIAN-SECRETARY

**PRESIDIUM
APPARATUS**

**INTERNATIONAL
SCIENTIFIC -
EDUCATIONAL
CENTRE**

**PUBLISHING
HOUSE
"GITUTYUN"**

**FUNDAMENTAL
SCIENTIFIC
LIBRARY**

**NATIONAL
BUREAU
OF EXPERTISE**

DIVISIONS

**MATHEMATICAL
AND TECHNICAL
SCIENCES**

**PHYSICS AND
ASTROPHYSICS**

**NATURAL
SCIENCES**

**CHEMICAL AND
EARTH SCIENCES**

**ARMENOLOGY AND
SOCIAL SCIENCES**

**Institute of
Mathematics**

**V.Ambartsumian
Byurakan
Astrophysical
Observatory**

**Centre for
Ecological and
Noosphere
Studies**

**A.Nalbandyan
Institute of
Chemical Physics**

Institute of History

**Institute of
Mechanics**

**Institute for
Physical Research**

**G.Davtyan Institute of
Hydroponics
Problems**

**M.Manvelyan
Institute of General
and Inorganic
Chemistry**

**Institute of
Philosophy,
Sociology and Law**

**Institute for
Informatics and
Automation
Problems**

**Institute of Applied
Problems of
Physics**

**Scientific Centre
of Zoology and
Hydroecology**

**Scientific -
Technological
Center of Organic
and Pharmaceutical
Chemistry**

**M.Kotanyan
Institute of
Economics**

**Department of
Hydromechanics
and Vibrotechnics**

**Institute of
Radiophysics and
Electronics**

**Scientific &
Production
Centre "Armio-
technology"**

**Institute of
Geological
Sciences**

**R.Acharyan
Institute of Language**

**M.Abeghyan
Institute of
Literature**

**Institute of Oriental
Studies**

Institute of Arts

**Shirak Centre for
Armenian Studies**

**"Armenian
Encyclopedia"
Publishing House**

**ICRANet
Armenia**

Institute of Botany

**Institute of
Molecular Biology**

**A.Nazarov Institute
of Geophysics
and Engineering
Seismology**

**L.Orbeli Institute of
Physiology**

**H. Buniatyan
Institute of
Biochemistry**



**DIVISIONS OF
SCIENCES**



DIVISION OF MATHEMATICAL AND TECHNICAL SCIENCES

INSTITUTE OF MATHEMATICS

Established in 1971

Director: R.Barkhudaryan, PhD

24/5 Marshal Baghramian Ave., Yerevan 0019

Tel.: (+ 374 10) 524 801, Fax: (+ 374 10) 524 801

E-mail: rafayel@instmath.sci.am

URL: www.math.sci.am

Scientific trends

- The theory of approximation of functions in the complex domain. The problems of the Weierstrass theory of analytic functions
- Value distribution theory of analytic functions. Weighted spaces
- Real analysis and the theory of orthogonal series
- Integral and stochastic geometry
- Probability problems of mathematical physics
- Theory of differential and integral equations
- Integral and integro-differential equations in mathematical physics and stochastic processes

Meaningful results

- The classical problem of uniform approximation by polynomials has obtained the final solution
- The conjecture of R. Nevanlinna on defects of entire functions of finite order has been rejected
- New results on efficient analytic continuation of power series and on localization of their singularities have been obtained
- Essential improvements of D.Menshov's correction theorems have been obtained
- The structure description of convergence sets has been obtained for operators with the localization property
- Muckenhoupt type weighted estimates have been proved for a wide class of operators
- A new direction - combinatorial integral geometry - situated on the border of probability theory and differential geometry, has been created
- The necessary and sufficient conditions under which the conditional distribution of the random field is Gibbsian have been obtained. A strong mathematical definition of the potential energy in general form (without using the concept of the interaction potential) has been given which opens the possibility to give a justification of the Gibbs formula and to construct the general theory of Gibbs random fields
- Methods have been developed for Fourier series convergence acceleration. The results have been developed and generalized to cases of trigonometric interpolation and expansions in eigenfunctions of boundary value problems on a finite interval
- For the polynomial method of Fourier series convergence acceleration the auto-correction phenomenon has been experimentally discovered and theoretically justified
- A new theory of scalar and vector integral equations of convolution type and more general equations has been created. The method of nonlinear factorization equations, the method of semi-inverse factorization, the method of two-sided continuation, the method of averaging the kernel and other methods have been developed. Existence theorems for wide classes of linear and nonlinear equations in the critical case have been proved





INSTITUTE OF MECHANICS

Established in 1971
Director: Dr. V. Hakobyan

24/2 Marshal Baghramian Ave., Yerevan 0019
Tel.: (+374 10) 524 890, Fax: (+374 10) 568 189
E-mail: vhakobyan@sci.am
URL: www.mechics.sci.am

Scientific trends

- Mathematical theory of elasticity
- Theory of anisotropic plates and shells
- Theory of plasticity, creep and viscoelasticity
- Magnetoelasticity
- Contact and mixed boundary-value problems of deformable solids mechanics
- Interaction of thin-walled systems with different physical fields and media
- Waves propagation in continuous media
- Composite materials
- Mechanics of soils, basis and foundations

Meaningful results

- The creep theory of homogeneous and non-homogeneous aging materials has been built
- Refined and asymptotic theories of layered anisotropic plates and shells have been built
- The magnetoelasticity theory of thin-walled bodies has been built
- The discovery of low-stress phenomenon was carried out (1978)
- The theory of different modulus elasticity has been built
- The micropolar theory of plates and shells has been built
- The theory of soil creep has been built
- Effective methods for the solution of plane, space, static and dynamic contact and mixed boundary value problems of the elasticity theory have been elaborated
- Effective methods for research of wave propagation in continuum media have been elaborated
- The standard 178-99 "Soils. Laboratory methods for defining the durability characteristics by torsion" has been elaborated
- Technologies of producing new composite materials of different purposes by recycling have been developed





INSTITUTE FOR INFORMATICS AND AUTOMATION PROBLEMS

Established in 1957
Director: V. Sahakyan, PhD

1 P.Sevak Str., Yerevan 0014
Tel.: (+ 374 10) 282 030, Fax: (+ 374 10) 282 050
E-mail: iiap@sci.am
URL: www.iiap.sci.am

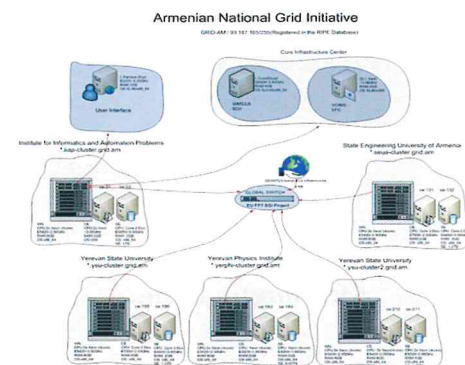
Scientific trends

Mathematical problems of informatics and computer engineering, mathematical support of information systems, automation of scientific research, including:

- Models of computations and logical reasoning
- Discrete mathematics
- Information theory and statistical models
- Coding and signal processing
- Computational and cognitive networks
- Scientific computing
- Mathematical modeling, development and implementation of software tools for network and high-performance computing systems

Meaningful results

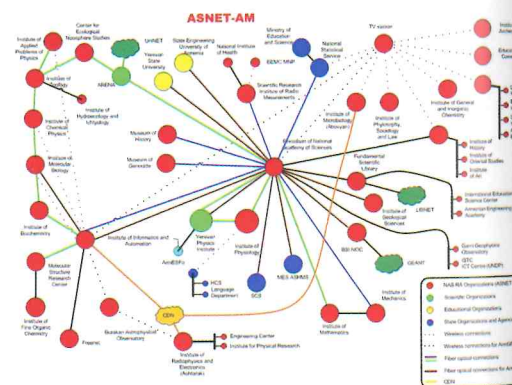
- Features of special kinds of automata, as well as methods for their improvements have been investigated. An appropriate theory has been developed, and a method for acyclic partitioning of microprogrammed processors has been introduced based on the speed optimization principle. Algebraic types for distributed computing models and classes of languages for their behavioral description have also been studied. Investigations of the Abelian Sandpile model belonging to the family of cellular automata have been conducted accordingly
- Symmetric constructive logic has been proposed and investigated. A new logic system - fuzzy constructive logic - has been created, which allows to use fuzzy logic to study properties of calculability of constructive objects
- A.Kolmogorov's complexity properties have been investigated, A.Mayer's problem has been solved on the unsolvability degrees of the sets of minimal indices. Systems of general form recursive equations have been introduced and studied
- The analytical properties of Boolean functions and the complexities of their presentation in formal languages have been studied. The solution of discrete isoperimetry problem has been obtained for the unit cube and for the torus. The logic-separation method of recognition has been developed. Simple structural description of the set of the degree sequences of simple hypergraphs is obtained. The problems of existence of Hamiltonian, longest, dominating cycles in graphs and directed graphs, and the problems of graph colorings and some modifications of known colorings have been investigated
- Constructive systemic models of cognitive systems have been developed. The methodology of transition from classifiers of deterministic methods and computable functions to specifications





of algorithms invented by Turing, Church, Markov are applied to adequate modeling of mental behavior

- A number of fundamental results have been achieved in the theory of code construction for asymmetrical channels, as well as in the theory of construction of irreducible polynomials over finite fields. SAFER+ and SAFER++ block encryption algorithms have been developed. SAFER+ is chosen as a standard algorithm for a message authentication for BLUETOOTH technology, SAFER++ was among the best 5 algorithms for European NESSIE project. A new alternative public key encryption algorithm has been developed which has a comparable security level with well-known similar algorithms but has a significantly better performance
- Methods for synthesis of orthogonal and easily reversible transforms have been developed. Multiplicative method for matrix construction has been proposed enabling to construct an Hadamard matrix of order $mn/2$ from Hadamard matrices of orders m and n . A software has been developed to calculate the heart rate by analyzing the changes of the person's face in the video sequences. A new technique has been developed and applied for data processing, assessing quality and similarity
- Functions have been studied which express the dependence of the rate on the probability of error, distortion level and reliability. Results have been obtained for multi-terminal, varying channels for a number of identification and security systems. The problem of optimal testing of statistical hypotheses has been solved for different models. An algorithm for numerical simulation of disordered spin systems has been developed
- The academic research computer network (ASNET-AM) has been created, which provides a link to pan-European research and education environment (GEANT) for research and educational organizations in Armenia
- The first in Armenia high-performance computing system Armcluster, as well as a number of high-performance computing systems have been created for institutes and universities, a national computing grid environment has been developed
- Since 1997 an international conference (CSIT) has been organized in Armenia devoted to computer science and information technology (CSIT)
- Since 1963 the collection of works "Mathematical Problems of Computer Sciences" has been published





DEPARTMENT OF HYDROMECHANICS AND VIBROTECHNICS

Established in 1992
Director: G.Avetisyan, PhD

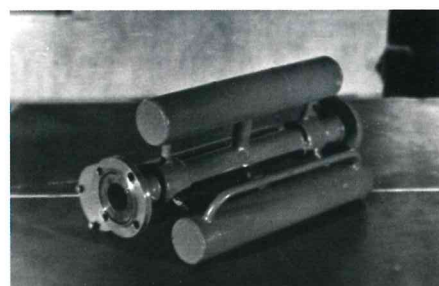
14 V.Sargsyan Str., Gyumri 3115
Tel.: (0312) 3 03 29, Fax: (0312) 3 19 45
E-mail: energopower@mail.ru

Scientific trends

- Machine dynamics, wave and vibration processes, vibration acoustics of machines and constructions
- Noiselessness and vibration stability of hydro-mechanical systems
- Nonlinear wave mechanics of multi-phase (liquid, gas) systems
- Control over wave and vibration processes in pipeline systems
- Regulation of transitory and stationary modes in pipeline systems with pressure and flow stabilizers

Meaningful results

- Development of high-performance devices for stabilization of wave and vibration processes in pipeline systems
- Design and production of experimental installations for the study of wave and fluctuating processes in stabilizer-containing pipelines
- Determination of the influence of forced fluid fluctuations on the flow. Determination of how the fluid friction coefficient relates to the amplitude and frequency parameters of vibrations in a fairly large range of Reynolds
- Development of methods for calculating the parameters of single- and biphasic (liquid and gas) stabilizers
- Determination of the relation of cavitation processes in hydraulic power plants to the fluid flow and pressure fluctuations
- Development of stabilizers for reactive hydroturbines which help increase their efficiency by 5-7%
- Determination of the relation of the indicator power of plow machines to wave and vibration processes in machines and adjacent communications
- Design and production of a 20 kW hybrid (Savonius and Jumbot) wind turbine with vertical axis for the wind velocity of 3-18 m/s





DIVISION OF PHYSICS AND ASTROPHYSICS

V.AMBARTSUMIAN BYURAKAN ASTROPHYSICAL OBSERVATORY

Established in 1946

Director: A.Mickaelian, PhD

v. Byurakan, Aragatzotn Province 0213

Tel.: (+374 91) 195 901

E-mail: observ@bao.sci.am

Website: www.bao.am

Scientific trends

- Studies of the large-scale structure and dynamics of the Universe, groups and clusters of galaxies
- Active Galactic Nuclei (AGN), quasars and other manifestations of extragalactic activity
- Young stars, early stages of stellar evolution and star-forming regions and associated nebulae
- Theoretical astrophysics, interpretation of spectra

Meaningful results

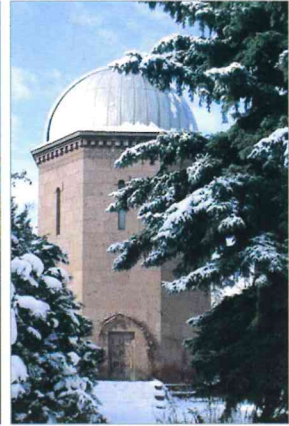
- The stellar associations were discovered and their cosmogonic significance was revealed. It was proved that formation of new stars is going on in our Galaxy and for the first time it was shown that the age of the stellar associations' member stars does not exceed several dozen million years (1940s)
- For the first time a new concept on the Active Galactic Nuclei (AGN) was put forward, which attracted the attention of the international scientific community at the activity of galactic nuclei and the development of this field all over the world was initiated (1950s)
- The first massive survey of galaxies with active nuclei was accomplished and 1500 UV-excess or Markarian galaxies were discovered (1965-1980s)
- The cosmogonic significance of the flare stars was revealed and it was found out that all the red dwarf stars pass through the flare activity phase in the early stage of their evolution (1960-1970s)
- Numerous new active young stars, Herbig-Haro objects, fuors, collimated stellar jets were discovered in stellar clusters and star-formation regions and studied in detail (1970-2000s)
- A new field of the radiative transfer theory was created on the basis of the Invariance Principle to apply principally new methods for the solution of many problems (1940-1980s)
- Numerous stellar objects (quasars, white dwarfs, cataclysmic variables, carbon stars, etc.) were discovered on Markarian Survey plates (1980-2000s)
- On the basis of Markarian Survey, mass optical identifications of infrared (IR) and X-ray sources were carried out and many active galaxies, high-luminosity IR galaxies, interacting galaxies, white dwarfs, cataclysmic variables, and red stars were revealed (1990-2000s)
- In 2011, Markarian Survey was included in UNESCO "Memory of the World" documentary heritage international register
- Since 1946 (with some interruptions) BAO has published the "Communications of the Byurakan Observatory" scientific





refereed journal. The 64th volume of this periodical was published in 2017

- BAO has organized official IAU symposia on active galaxies and non-stable stars, the European Astronomical Society (EAS) general meeting, the International Conference “Astronomy Heritage of the Middle East” (with the support of UNESCO), etc. The proceedings of the meetings have been published by NAS RA, Cambridge University Press, Astronomical Society of the Pacific Conference Series and other prestigious publishing houses





INSTITUTE FOR PHYSICAL RESEARCH

Established in 1968

Director: corr. member A.Papoyan

Ashtarak 2, Aragatsotn Region 0203

Tel.: (+ 374 10) 288 150, Fax: (+ 374 232) 3 11 72

E-mail: ifi@ipr.sci.am

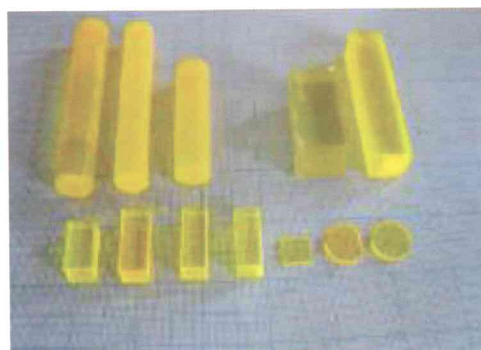
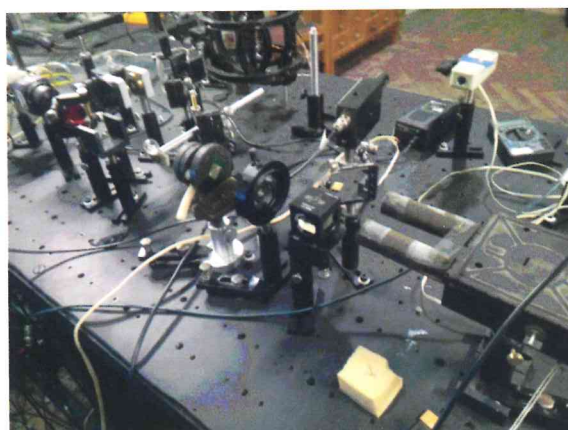
Website: www.ipr.sci.am

Scientific trends

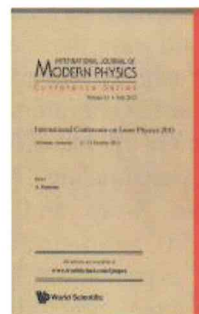
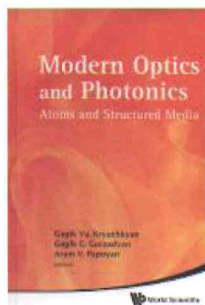
- Laser physics and material science

Meaningful results

- The basics of the rate-equation and semiclassical theory of laser physics have been developed. Technological basis for growth of crystals used in laser technology has been created. The developed technologies and equipment have been applied in industrial companies of the USSR (State Award of Arm.SSR, 1980)
- The operation peculiarities of lasers on self-saturating transitions have been revealed
- New nonlinear optical phenomena in resonant interaction of laser radiation with atomic medium have been revealed, in particular processes of three-photon and stimulated Raman scattering
- High quality nonlinear, acousto-optical, and pyro-electrical crystals have been developed and produced, which were widely used in Soviet industrial laser systems
- Tens of new active laser single crystals for the wavelength region of 0.6 - 3 μm , as well as highly-efficient single-crystal scintillators for application in the new generation of medical tomographs and high-energy physics have been developed and studied
- High-efficiency erbium lasers operating on self-saturating transitions in near- and mid-infrared domain have been created
- Studies on propagation of laser radiation in atmosphere have been realized for development of optical communication systems, range-finders, and other equipment
- High-temperature superconducting materials and structures have been synthesized and studied among the firsts in the world
- Nanometric-thickness optical cells containing atomic vapour have been developed, which were used in studies of coherent, magneto-optical and other processes of fundamental and applied interest
- New schemes have been suggested for recording and retrieval of quantum information via atomic coherence, for quantum information, telecommunication, and computing
- New techniques for synthesis of carbon and ferromagnetic nanoparticles and nanocomposites have been developed
- New methods for engineering of micro-structured photorefractive materials have been studied for photonics and information storage applications



- Complex studies of multi-functional laser crystals and periodically poled crystals have been performed for creation of solid-state laser radiation sources and frequency converters with new characteristics
- Components and schemes of optically transparent electronics and memristive memory have been developed based on doped film structures
- Schemes of optical magnetometers with different functional characteristics have been developed based on magneto-optical processes under resonant interaction of laser radiation with alkali metal vapors





INSTITUTE OF APPLIED PROBLEMS OF PHYSICS

Established in 1980

Director: corr. member A.Mkrtchyan

25 Hr. Nersisyan Str., Yerevan 0014

Tel. : (+374 10) 241 110, Fax: (+374 10) 281 861

E- mail: amkrtchyan@sci.am

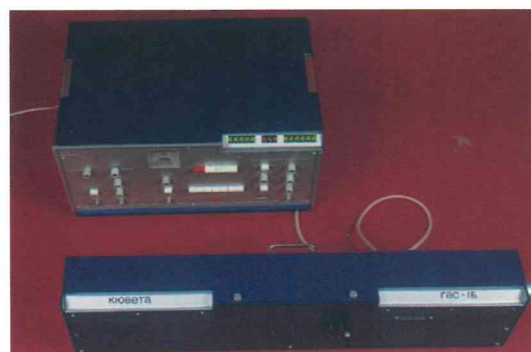
Website: www.iapp.sci.am

Scientific trends

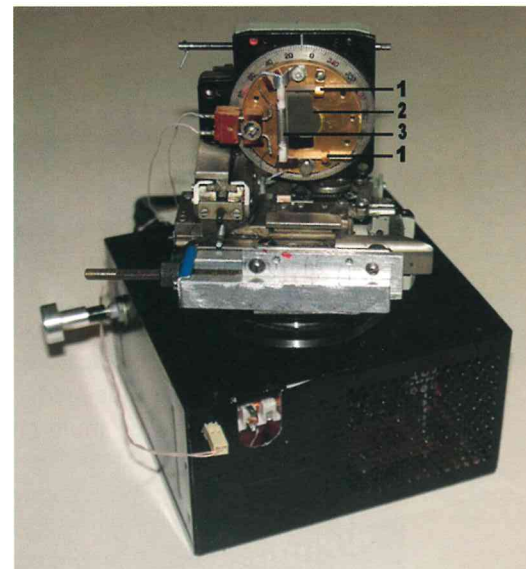
- Condensed matter physics
- Acoustophysics, acoustoplasma, acoustics
- Material science and scientific instrument making

Meaningful results

- The accumulation and reverberation effects of acoustic waves, excited from artificial and natural sources in water and air media with certain inclusive edges have been registered
- The following has been revealed:
 - double gamma-frequency resonance effect in the first excited state of the nucleus, oscillation effect of absorption spectrum, possibility of determination of scattering cross-section of one and multi photon birth
 - the focusing and defocusing effects of diffracted X-rays and thermal neutrons, which give opportunity to control the temporal and spatial parameters of the beams by means of external excitation
 - the effects of full and lossless pumping of thermal neutrons, X-rays and Mossbauer radiation from propagation direction to reflection direction, as well as the two-wall nano-acoustic tubes formation effect. Combination of corpuscular and wave theories
 - new effects in compounds with $(-\varepsilon, -\mu)$ parameters, which enable to develop terahertz generators
 - the effects of integral intensity multiplication of charged elemental particles channeling, X-ray and optics transition, parametric X-ray and coherent bremsstrahlung radiations in piezo-electric single crystals at the presence of external influences and possibilities to control the temporal and spatial characteristics, and on basis of it to develop new monochromatic intensive radiation sources with controllable characteristics
- In ordered media the revelation of "Alpikograms" for Garibyan radiation of relativistic electrons and with their help the determination of material composition, structure and other characteristics
- In amorphous media with the influence of external electromagnetic fields ordered media creation and in these media the registration of the X-ray transition radiation of relativistic electrons and its utilization as alternative monochromatic intensive radiation source
- The dynamics of (e^-, e^+) pair birth cross-section change under the influence of acoustic fields



- The formulation and solution of reverse incorrect delivered problems in acoustophysics and plasma physics
- The revelation of effects of characteristics control of low temperature plasma and low frequency acoustic wave excitation and amplification in plasma as well as various phase transition by acoustic waves
- By means of acoustophysics synthesis of new multi compound media with system various order level and certain relative density
- The delta electrons birth drift and multiplication in new synthesized media
- On the basis of fundamental research new scientific equipment has been developed and created: X-ray, gamma and neutron beams monochromators, lenses, deflectors, supersensitive photomultipliers without background, coordinate sensitive, resistive materials with arbitrary space form, etc., which are widely used in nuclear and condensed matter physics, chemistry, biology, medicine, particularly, in radiation medicine, geology, mine industry, seismology, and other areas





INSTITUTE OF RADIOPHYSICS AND ELECTRONICS

Established in 1960

Director: T.Zakaryan, PhD

1 Alikhanian Broth. Str., Ashtarak 0203

Tel.: (+374 232) 3 27 89

E-mail: office@irphe.am

Website: www.irphe.am

Scientific trends

- Development of high-sensitivity microwave receivers for radio astronomy, remote sensing of the Earth, radar and communication engineering
- Study of physical principles of generation, amplification and spectral analysis of emission in Terahertz (THz) frequency band and development of functional elements and devices for communication and high-resolution microscopy in biology and medicine
- Development of laser-pulse deposition technology accompanied by chemical technology for growth of semiconductor nanometer-thick films and heterostructures used in the IR detectors, solar cells and other devices
- Development of radar systems
- Theoretical study of generation and propagation of electromagnetic waves by the moving charged particles in plasmas and in inhomogeneous media, with applications in radio physics

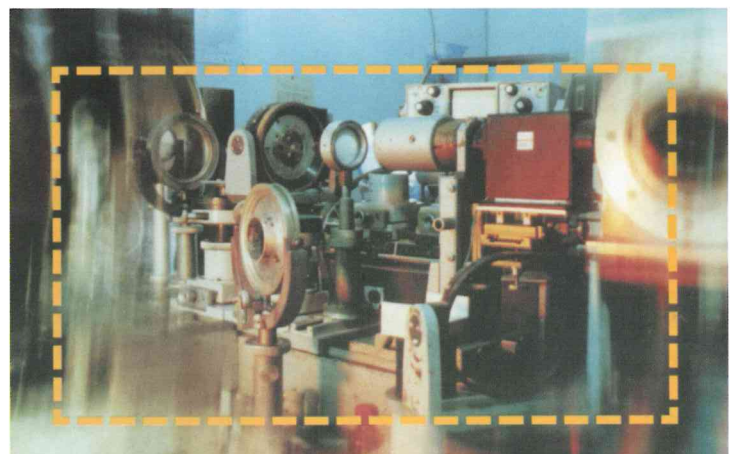
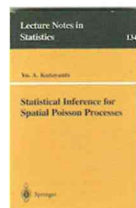
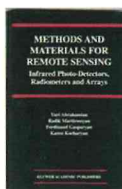
Meaningful results

- Several generations of thermal radiation receivers (radiometers and polarimeters) have been developed in the decimeter, centimeter and millimeter wavelength bands, possessing high resolution power of the source brightness temperature. The developed methods and equipments have allowed certification of the far-distance communication antennas used in the international projects of the Earth and other planets surveillance ("Priroda", "Vega", "Meteor", "Ocean", etc.). The extensive information has been collected on the state of the Earth surface areas, world ocean and atmosphere temperature profiles
- Several extra low noise quantum paramagnetic amplifiers (masers), which find important applications in the radio astronomical researches, have been developed. A group of IRPhE specialists headed by acad. R.Martirosyan received the Ukrainian and Armenian Government Awards for this project
- A number of theoretical results of electromagnetic waves generation and propagation in various media have been obtained
- The high-sensitivity multi-channel spectrometer developed at IRPhE has been used to detect and analyze a weak microwave emission generated in high-temperature superconducting and weakly coupled structures due to the coherent motion of the vortices for the first time
- Laser-pulse deposition method combined with a chemical technology has been developed to obtain thin film semiconductor heterostructures
- A continuous-wave Doppler radar has been developed and manufactured, where the variable-period linear frequency modulation of the signal has been used. The system allows simultaneous high-accuracy measurement of the coordinates and velocities for multiple moving targets
- Devices with unique operation parameters have been developed, such as high-power and low-noise amplifiers, 6-digit phase shifters, low-inertial limiters and other active devices for radar applications
- A series of angle photoelectrical encoders have been developed and manufactured, having broad applications in machine industry, robotics and different space-orientation systems due to their high measurement accuracy and small sizes. The encoders were introduced for the serial production by



Armenian SSR Government decision at a special factory in town Goris

- Dielectric diffractive micro-lens has been proposed, which has all the properties of the refractive lenses. Additionally, it exceeds Fresnel lens in broadband
- Mixed hardware-software real-time precise and reliable tools for matching of the exciting generator with plasma chamber have been developed. The design involves innovative solutions in the fields of digital signal processing and scientific instruments
- The theory of a picowatt power solar cell based on a single nanowire with a radial p-n junction has been developed, the efficiency dependence on the radius of the nanowire and the surface recombination rate has been investigated
- Features of Seebeck coefficient have been investigated in thermoelectric materials with spherical porosity of different sizes (from nanometers to microns)
- The spreading of the light through nano-sized holes in a metallic plate has been studied





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

INTERNATIONAL ORGANIZATION ICRANET CENTER

Established in 2015

Director: N. Sahakyan, PhD

24A Marshal Baghramian Ave., Yerevan 0019

Tel.: (+374 10) 600 605, Fax: (+374 10) 600 605

E-mail: narsahakyan@gmail.com,

icranet-armenia@icranet.org

Scientific trends

- High energy gamma-ray and X-ray astrophysics
- Astroparticle physics
- Particle acceleration and emission processes in the jets of blazars
- X-ray emission from large-scale jets
- Astrophysical data analyses

Meaningful results

- The high-energy gamma-ray emission from the core and lobes of Centaurus A has been investigated
- High-energy gamma-ray and neutrino emission from Cygnus X-3 has been studied
- Using Fermi LAT data, the high-energy gamma-ray emission from 26 radio galaxies has been studied
- It has been found that the gamma-ray emission from NGC 1275 is variable within a short, 1.2 hours timescale
- The 3C 120 jet emissions at small and large scale have been investigated, analyzing the Fermi LAT, Swift UVOT/XRT and Chandra data
- High- and very-high-energy gamma-ray emission from the distant flat-spectrum radio quasar PKS 1441+25 ($z = 0.939$) has been investigated
- International collaboration:
 - The center is a full member of MAGIC collaboration
 - The center collaborates with other ICRANet centers in Italy, Brazil and France as well as with the universities in the ICRANet network





DIVISION OF NATURAL SCIENCES

CENTER FOR ECOLOGICAL - NOOSPHERE STUDIES

Established in 1993

Director: Dr. A.Saghatelian

68 Abovian Str., Yerevan 0025

Tel.: (+37410) 572 924; Fax: (+37410) 572 938

E-mail: ecocentr@sci.am; info@cens.am

Website: www.cens.am

Scientific trends

- Environmental geochemistry
- Biochemistry and target greening
- Radioecology
- Geographic Information System (GIS) & remote sensing technologies
- Bioenergy & feed resources
- Food chain risk assessment

Meaningful results

- In the cities of RA different levels of pollution of spatial distribution of pollutants have been revealed, ecological and health risk assessment has been done. Heavy metals multi-elemental non-carcinogenic risk to children health is registered
- A target greening program for city of Yerevan has been developed based on ecological indices of different environments and tolerance of plants
- Radioecological monitoring network has been created and monitoring of transborder radioactive pollution has been implemented. Human health risk from natural and artificial radionuclides in the environment of the big cities and mining centers of Armenia has been assessed
- The interpretation and classification of multispectral satellite images have shown that the productivity of ecosystems of Syunik marz has increased in conditions of changing climate, which underpins new possibilities for the development of agriculture in the marz
- The energy and nutritive value of ruminant animals feed resources has been estimated. Agricultural measures have been tested to increase the productivity and energy potential of model areas of near-village pastures
- Health risks posed by the heavy metal exposure through consumption of fruit and vegetable in Armenia's mining regions have been revealed. It was stated that for Yerevan's population carcinogenic risk of aflatoxin B1 through consumption of cereal crops exceeded the toxicological level





G.DAVTYAN INSTITUTE OF HYDROPONICS PROBLEMS

Established in 1947

Director: Kh. Mayrapetyan, PhD

108 Noragyugh, Yerevan 0082

Tel.: (+374 10) 565 162, (+374 10) 565 590

E-mail: hydrop@netsys.am, hydropinstitute@gmail.com

Scientific trends

- Development of the physiological-biochemical and agrochemical bases of hydroponics cultivation of valuable, rare and endangered plants
- Development of biotechnological and mathematical models of productivity for a set of valuable, small-tonnage cultures under conditions of modern “water-stream hydroponics”
- Testing and introduction of hydroponic models to improve the quality of seedlings of some essential cultures
- Development of accelerated soilless cultivation biotechnology of decorative tree-shrub plants saplings

Meaningful results

- High efficiency of plants’ outdoor hydroponic cultivation under controlled conditions of root nourishment and other factors of outer environment has been estimated, high quality of ecologically pure hydroponic plant raw material has been confirmed
- Soilless cultivation biotechnologies of series of valuable and small-tonnage cultures (medicinal, essential oil bearing, dye bearing and etc.) have been elaborated, mathematical models of their productivity’s increase have been constructed
- Modern water-stream (continuous, gully, cylindrical, long-term planting) and organic hydroponicums have been developed and patented for soilless cultivation of various plants
- Outdoor classical hydroponicums for green mass of rose pelargonium and grape saplings cultivation, aggregates for production of vitamin-containing green forage and unicellular chlorella suspension, outdoor “water-stream” hydroponicums for wasteless production of rose pelargonium and various phyto-teas (mint, thyme, etc.) have been introduced into production



SCIENTIFIC CENTRE OF ZOOLOGY AND HYDROECOLOGY

The Centre was established in 2006 through merging the Institute of Zoology and the Institute of Hydroecology and Ichthyology
Director: Dr. B. Gabrielyan

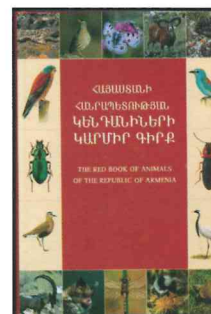
7 P. Sevak Str., Yerevan 0014
Tel.: (+374 10) 207 592, Tel/Fax: (+374 10) 285 961
Fax: (+374 10) 285961
E-mail: gabrielb@sci.am, zoohec@sci.am
Website: www.sczhe.sci.am

Scientific trends

- Studies of terrestrial and aquatic ecosystems of Armenia
- Studies of biodiversity, taxonomy, morphology, ecology, ethology, evolution, genetics, zoogeography of invertebrate, vertebrate animals and hydrobionts of Armenia
- Studies of parasitic fauna of animals and plants
- Monitoring of the Lake Sevan limnosystem
- Assessment of bioresources, development of their conservation methods, restoration and sustainable use
- Realization of scientific-educational activity

Meaningful results

- The species composition of fauna including around 17000 invertebrate and 549 vertebrate species has been identified. More than 300 new animal species have been described. The current state of the Armenian fauna has been assessed, about 500 species have been recorded as endemic and more than 300 have been classified as rare and endangered. It has become clear that in the period from the Bronze Age until the Middle Ages, 10 mammal species have become completely extinct
- Parasite fauna and parasitic diseases of animals and plants of Armenia have been studied. More than 900 species of helminthes of plants and of wild and domestic animals have been described. Transmission patterns, ecological and biological traits, parasite-host interrelations of most hazardous helminthes for humans and animals have been researched
- Rich scientific collections and a zoological museum have been created
- Methods of control and treatment of a range of parasitic diseases of farm animals and crops, as well as environmentally-friendly methods of control of agricultural pests have been developed
- In 1996 Russian-Armenian Joint Scientific Experimental Center (RA JSEC) was established by the agreement between the A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences and the Institute of Zoology of the SCZH NAS RA
- The proposal to rise water level of Lake Sevan up to 1903,5 m aimed to prevent the eutrophication process and improvement of its water quality has been realized
- The hydroecological database of Lake Sevan has been created
- The annual proposals of Lake Sevan's bioresources (particularly of fish and crayfish) management have been done
- The biomonitoring and assessment of water quality of transboundary rivers of Armenia have been realized





“ARMBIOTECHNOLOGY” SCIENTIFIC AND PRODUCTION CENTER

Established in 2010

Director: acad. A. Saghyan

14 Gyurjyan Str., Yerevan 0056

Tel.: (+374 10) 654 180; Fax: (+374 10) 654 183

E-mail: armbiotech@gmail.com

Website: www.armbiotech.am

Scientific trends

- Fundamental research in biotechnology, microbiology, molecular biology, genetics, genetic engineering and organic chemistry
- Synthesis of protein and non-protein amino acids, peptides, enzymes and other biologically active substances
- Development and optimization of biotechnological processes of BAS production
- Medical and biological screening of biopreparations
- Gene engineering, selection and construction of strain-producers of biologically active substances
- Solution of urgent problems in medicine, agriculture, food industry, ecology and safety
- Study of microbial diversity of Armenia. Maintenance, deposition and study of the Culture Collection of microorganisms of research and production significance
- Organization of small-scale biotechnological productions based on own technologies (amino acids, biological fertilizers, fermented dairy products, enzymatic, galenic and new galenic preparations, plant oils)
- Academic and social activities

Meaningful results

- More than 15 technological regulations for production of L-amino acids have been developed
- High-yield producers of L-amino acids (proline, valine, alanine, ornithine, arginine, histidine) have been obtained by gene engineering and selection methods
- Methods for production of D-amino acids (alanine, aspartic acid, proline, methionine, leucine) have been developed by microbial degradation and enzymatic hydrolysis
- Preparative production of non-protein optically active (R)- and (S)- α -amino acids and short peptides has been set up
- Technologies for production of enzymatic preparations (amylase, glucoamylase, bactorennine) for food industry have been developed
- Production of biological fertilizers “Ecobiofeed” and “Ecobiofeed+” has been set up
- Manufacture of fruit-berry syrups has been established
- Production of galenic preparations, plant oils, tinctures and extracts of medical and cosmetic significance has been organized
- Production of the therapeutic and preventive fermented dairy product, including fruit “Narine” has been set up
- Technologies for production of new bacterial insecticides and antimicrobial preparations, plant growth stimulators have been developed
- The Culture Collection of microorganisms (more than 13000 strains) of scientific and production significance has been created



A.TAKHTAJIAN INSTITUTE OF BOTANY

Established in 1938

Director: corr. member Zh.Vardanyan

1 Atcharian Str., Avan, Yerevan 0040

Tel.: (+374 10) 628 211

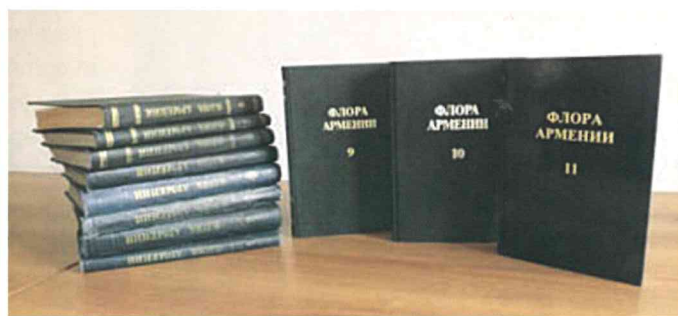
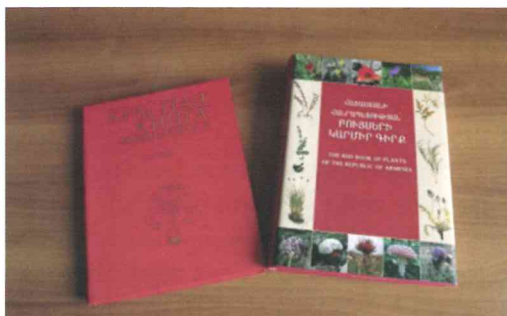
E-mail: botanyinst@sci.am

Scientific trends

- Studies and conservation of Armenia's flora, vegetation and plant resources
- Development of scientific concepts to improve the basic forest formations of the Republic and introduction and acclimatization of plants
- Elaboration of scientific fundamentals of tree planting in settlements
- Studies of the dynamics of variation in Armenia's vegetation cover to identify and investigate ecosystems that comprise endemic and relict plant species

Meaningful results

- Inventory of Armenia's flora, which results are highlighted in 11 volumes "The Flora of Armenia" (1954-2010). The Flora of Armenia includes 3600 species of vascular plants belonging to 922 genera and 160 families; the work on the second edition of the "Red Book of Armenia" is completed
- The Herbarium of the Institute of Botany (ERE) has been created. It contains over half a million of herbarium sheets including specimens collected from the territories of Armenia and Caucasus, as well as from different parts of the world
- Creation of the paleobotanical collection containing more than 20000 samples of 350 species of fossil plants from the sedimentary rocks dating from Anthropogenic to Permian periods
- Creation of the "Seed Bank of Armenian Flora" which contains more than 3000 samples of 570 plant species growing in Armenia
- Creation of the rich collection of trees and shrubs (about 1170 species) in the Botanical Garden of NAS RA and its branches in Vanadzor and Sevan





INSTITUTE OF MOLECULAR BIOLOGY

Established in 1966

Director: A. Arakelyan, PhD

7 Hasratyan Str., Yerevan 0014

Tel.: (+374 10) 281 626, Fax: (+374 10) 282 061

E-mail: imb@sci.am

Website: molbiol.sci.am

Scientific trends

- Study of molecular mechanisms of cell activity regulation and their alterations in complex human and animal diseases
- Development of new efficient preventive and therapeutic agents and methods of molecular prognostics and diagnostics
- Armenian genome study through application of patho-, eco-, immune-, and population genomics approaches
- Study of biological signal transduction pathways, structural and functional properties of biomolecules, and their interactions using bioinformatics and molecular modeling approaches

Meaningful results

- Armenian genome project has been launched
- Genotyping analysis has identified polymorphisms in genes of neuro-immune-endocrine system that increase the risk of development of schizophrenia, posttraumatic stress disorder, ischemic stroke and diabetes in Armenian population
- The distribution of common single nucleotide polymorphisms associated with predisposition to mono- and polygenic diseases in Armenian population has indicated the high prevalence of polymorphisms associated with metabolic, cardiovascular diseases and cancers
- Analysis of complete mitochondrial genomes of modern Armenians and ancient DNA samples from present-day Armenia and Artsakh strongly support a genetic continuity model of the inhabitants of the eastern areas of the Armenian Highland at least since the Neolithic
- It has been discovered that schizophrenia is characterized by excess production of the important mediators of the immune response, the complement system components and cytokines, and by mutations of their genes
- It has been revealed that abnormal apoptosis of the immune-competent cells is involved in pathogenesis of familial Mediterranean fever
- It has been revealed that hyper-expression of proinflammatory and chemotactic cytokines positively correlates with clinical and psychopathological symptoms of posttraumatic stress disorder
- Molecular-genetic analysis of circulating Salmonella strains has allowed creating molecular epidemiology map of Salmonella infection prevalence as well as characterizing genetic basis of antibiotic resistance in common bacterial strains
- Test-system for molecular diagnostics of schizophrenia has been developed and patented
- Express method and test-system for molecular diagnostics of overfatigue syndrome has been developed and patented
- New antiviral preparation for prevention and treatment of foot-and-mouth and New-Castle disorders has been developed





- Software of analysis of telomere length from whole genome sequencing, software for analysis of biological pathway activity profiles using global gene expression data has been developed
- Human and animal tissue-cultures collection has been created and maintained
- Human DNA-sample bank containing DNA-samples of diseased and healthy subjects has been established and is permanently replenished with new samples





L.ORBELI INSTITUTE OF PHYSIOLOGY

Established in 1943

Director: Dr. N.Ayvazyan

22 Orbeli Broth. Str., Yerevan 0028

Tel.: (+374 10) 272 247, Fax: (+374 10) 272 247

E-mail: info@physiol.sci.am



Scientific trends

- Neurophysiology
- Studies of integrative plastic properties of the nervous system
- Studies of mechanisms of central regulation of motor and vegetative functions

Meaningful results .

- Integration of mechanisms of functional organization and plasticity of motor patterns of brain stem and the role of deep brain structures in the mechanisms of regulation of vegetative functions of the organisms
- Study of morpho-structural organization and mechanisms of plasticity of the nervous system recovery at acute and chronic neurodegeneration under the effect of biomodulators
- Study of fine mechanisms of origination of spontaneous (pace making) activity of smooth muscle tissues particularly in urethra, uterus
- Study of morpho-chemical functional peculiarities in nervous and vascular cellular formations
- Study of modern innovative devices and new methodology for the early detection of pathological state of the human organism (biomedical instrumentation)
- Study of the effect of the action of neurochemical mechanisms of animal poisons on the nervous system, endemic viper venom antiserum development, investigation of the system of cell recognition receptors for snake venom components and its possible application in therapy (for neurodegeneration and cancer diseases) has been realized
- Psychophysiological expertise through polygraphology
- Study of the functional state of the brain by means of the vibro-acoustic phenomena registered from the external auditory canal

H.BUNIATIAN INSTITUTE OF BIOCHEMISTRY

Established in 1961
Director: Dr. S.Chailyan

1 P. Sevak Str., Yerevan 0014
Tel.: (+374 10) 281 840, Fax: (+374 10) 297 343
E- mail: schailyan@sci.am

Scientific trends

- Neurochemistry – biochemistry of brain immune modulators, peptides, metal-containing proteins and enzymes, biochemistry of specific proteins and cardiac hormones of hypothalamus and atrium
- Oncology – the antitumor effects of proline-rich galarmin and Gx-NH₂ peptides. Application of nanocomposites containing zeolite and metalloporphyrins in photodynamic damage of cancer cells and microorganisms. Study of the level of the activity of calcineurin, superoxide dismutase activities and tumor necrosis factor (TNF α) in cancer pathophysiology
- Diabetes research – study of GABA generating factors influence on chemical models of experimental diabetes mellitus, an alternative approach to treatment of type 2 diabetes through herbal preparations

Meaningful results

- The influence of galarmin and Gx-NH₂ peptides on the growth of cancer cells has been studied. The cytostatic (antiproliferative) and/or cytotoxic (apoptotic) mechanisms of galarmin effect have been studied and the results demonstrate mainly the cytotoxic effect of galarmin. The interaction of these peptides with the dimer of the extracellular domain of the human epithelial growth factor receptor (EGFR), the dimer of human superoxide dismutase and the monomer has been studied
- Complexation of porphyrins, the optimal conditions of this complex's influence and possible desorption have been studied. Nanocomposites from zeolite nanoparticles and metalloporphyrins can be applied for photodynamic damage of cancer cells and microorganisms
- Chromatographic columns have been created and production process has been established
- New peptides have been synthesized based on Fmoc amino acids, with application of high performance liquid chromatography and mass spectrometry
- The ability of herbal extracts to suppress toxic fibrillation processes of proteins causing amyloidineal diseases (Alzheimer's disease, diabetes, etc.) has been revealed in vitro. Suppression of growth of Ascite Ehrlich carcinoma cells has been observed with application of these plants. Their extracts and some of their elements can be suggested as an additional source for prevention of cancer, neurodegeneration and diabetes. Determination of activity of dipeptidyl peptidase IV and adenosine deaminase has contributed to creation of non-expensive diagnostics of tuberculosis, rheumatoid arthritis
- The nanoparticles of gold, silver, quantum dots sensitized with biomolecules (antibodies, antigens, lectines) can be applied in biological systems for identification of different bacteria





DIVISION OF CHEMICAL AND EARTH SCIENCES

A.NALBANDYAN INSTITUTE OF CHEMICAL PHYSICS

Established in 1960
Director: acad. L.Tavadyan

5/2 P. Sevak Str., Yerevan 0014
Tel.: (+374 10) 281 481, Fax: (+374 10) 297 309
E-mail: ichph@ichph.sci.am
Website: www.chph.sci.am

Scientific trends

- Free-radical, chain chemical reactions in gas and condensed phases, chemistry of free radicals
- Combustion processes, synthesis of compounds and materials under the combustion mode
- Catalysis, nanocatalysis
- Computational methods in chemical kinetics
- Scientific bases of complex processing of local metal-containing concentrates
- Problems of chemical safety of the environment

Meaningful results

- Combining the kinetic method of radical freezing with EPR spectroscopy. Free radicals, responsible for the process have been discovered in branching chain radical reactions of gas-phase oxidation of hydrocarbons and oxygen containing compounds
- In collaboration with the Institute of Chemical Physics RAS a new phenomenon: selective inhibition of chain reactions was discovered (Discovery of USSR N 338, 1988)
- Fundamentally new mechanisms of gas-phase oxidation of natural gas and olefinic hydrocarbons have been suggested
- For the first time free radicals in gas volume have been registered in the heterogeneous catalytic reactions
- On the basis of Hamiltonian systematization of the mechanisms of chemical reactions a new computational value method and relevant software have been developed for the kinetic analysis of complex (multistage) reactions
- Practically important hydrides, carbides, nitrides, silicides and borides of a number of transition metals and composite materials on their basis have been synthesized under the combustion mode by the self-propagating high-temperature synthesis (SHS) method
- A new low temperature method has been suggested for obtaining alloys of metals in the cyclic process by the use of transition metal hydrides
- An electrochemical method of wasteless integrated processing of metal containing concentrates has been developed ensuring high level of the extraction of valuable elements
- To study the kinetics of rapid solid-phase reactions high-speed electrothermography units of new generation HS-SET-3 and HSTS-2 have been developed and manufactured, giving a unique opportunity to heat metal wires and powder mixtures of reactants at controlled and not available by other methods high rates (up to 1 million and 200 degrees/s, respectively)
- An efficient composite chlorine-free disinfectant ("Bioxil-2") of new generation on the basis of active oxygen has been elaborated, tests according to standards have been conducted, production technology has been developed and pilot production of the disinfectant has been organized





M.MANVELYAN INSTITUTE OF GENERAL AND INORGANIC CHEMISTRY

Established in 1957
Director: Dr. N.Knyazyan

10 Argutyan Str., Yerevan 0051
Tel.: (+ 374 10) 230 738, Fax: (+ 374 10) 231 275
E-mail: ionx@sci.am, nknyazyan@sci.am

Scientific trends

- Development of technologies for complex processing of nonmetallic raw material
- Complex processing of high-melting, multicomponent metallic ores and waste products
- Synthesis of nano-sized, nano-composite, extra-hard ultrapure, vitreous, vitrocryalline and high-temperature, complex, biologically active materials
- Synthesis of materials of functional signification

Meaningful results

- New forms of biologically active elements of three-valence, low-molecular polyoxymolybdates have been revealed
- The technology of the production of luminophors on the silica-alumina basis and mullite via sol gel method and coprecipitation has been developed
- The mechanism of layered and fibrous silicates synthesis has been revealed, the nanocomposites with separated layers on the basis of silicates have been synthesized
- A novel method of ultrabasic rocks processing, allowing to derive from minerals magnesium compounds, two species of silica differing in structure, an iron compound, has been developed. Based on these silica species, new cost-effective ways for the production of various alkaline-earth metals silicates which are of great practical value have been suggested
- The mechanism of the synthesis of glass ceramics with polar crystalline structure on the basis of halogen- lanthanum containing systems has been revealed. Ferroelectric materials with low phase transition temperature have been developed
- Glasses with high refrangibility, cation-anion conductivity; ferroelectrics, bioglassceramics have been developed
- Hydrothermal-microwave method for the synthesis of radiation-resistant pigments for thermoregulatory coatings for regulating the temperature regime of space machines has been developed
- A technology for production of foam concrete on the basis of rock wastes - zeolites, perlites, tuffs - using microwave synthesis has been developed. The density of the obtained materials is from 600 to 1000 kg /m³
- A new plasmamechanochemical method for the synthesis of diamonds, nanosized powders of Fe, Co, Ni and their alloys has been developed
- Adsorbents, ion exchangers, filter-materials and carriers from amorphous, layered silicates and peels of stones have been developed
- The production technology of compounds of molybdenum has been offered
- The processes of hydrometallurgical recovery of copper and trace rare metals with using weak acids have been studied





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

SCIENTIFIC TECHNOLOGICAL CENTER OF ORGANIC AND PHARMACEUTICAL CHEMISTRY



The Center was established in 2006 through merging A. Mnjoyan Institute of Fine Organic Chemistry, Institute of Organic Chemistry and Molecule Structure Research Center
Director: corr.member V.Topuzyan

26 Azatutyan Ave., Yerevan 0014
Tel.: (+374 10) 288 334
Fax: (+374 10) 288 337
E-mail: nanraifok@mail.ru
Website: www.stcopc.sci.am

Scientific trends



- Research and development of new drugs
- Study of the correlations between chemical structure and biological activity
- Preclinical studies of potential drugs
- Chemistry of unsaturated compounds
- Chemistry of amino- and ammonium, amino acids and peptides as well as organophosphorous compounds
- Chemistry of natural bioregulators, chemistry of high-unsaturated compounds
- Polymer chemistry
- Determination of the structure of organic compounds by various physicochemical methods; study of the physical property-structure relationship; study of structural phase changes; biomimetic interactions and transformations in the coordinating sphere of metalloporphyrins

Meaningful results



- 14 drugs have been developed and introduced into medical practice. Currently four of them "Ditiline", "Gangleron", "Caproferr" and "Tiyodine" are produced in forms of ampoules and capsules in the Center and used both in Armenia and abroad (Ukraine, Belarus, Georgia)
- The reactions of rearrangement-splitting, cyclization-splitting and intramolecular diene synthesis of unsaturated ammonium salts have been revealed
- Natural low-molecular bioregulators, compounds with organoleptic and aromatic properties, aromatizers have been created; scientific bases for the synthesis and implementation of polymer compounds and composites have been elaborated
- Environmentally safe modern means of cropsprotection-pheromones that allow to exclude use of insecticides, pesticides have been created
- Phosphine oxides with high extraction properties have been obtained
- The mechanisms of biologically important reactions of nitrogen oxide with various oxygen binding metalloporphyrins have been clarified
- The phenomenon of argentic porphyrinsre structuring under the action of X-rays has been found and explained
- For the first time it has been shown that by NMR spectrum it is possible to determine the permittivity constant of different solutions and assess the values of the electric fields on atoms or group of atoms in molecules
- Several effective methods of organic synthesis have been developed



INSTITUTE OF GEOLOGICAL SCIENCES

Established in 1935
Director: Dr. Kh. Meliksetian

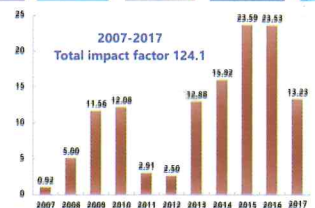
24a Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+374 10) 524 426
E-mail: igs@sci.am
Website: www.geology.am

Scientific trends

- Active tectonics, seismology
- Volcanology
- Regional geology and sedimentology
- Geohazards (seismic, volcanic, landslides, flooding)
- Ore deposits
- Geomorphology, geophysics
- Petrology and geochemistry
- Paleontology and palaeoenvironment
- Hydrogeochemistry

Meaningful results

- A scheme of biostratigraphic division of Phanerozoic formations has been completed
- Subdivision of the magmatic and metamorphic complexes and ore deposits according to their ages and geodynamic settings has been developed
- The main regularities of the geo-tectonic development of the region have been revealed; layouts of the tectonic zoning of the Lesser Caucasus have been developed
- Based on active fault studies, seismic risk has been assessed and detailed seismic zoning layouts have been developed for the Yerevan city agglomeration and other cities of Armenia
- Seismic and volcanic hazards have been assessed for the new unit of the Armenian nuclear power plant, based on the deterministic and probabilistic approaches
- The basic regularities of formation and localization of the mineral deposits have been established, geological-genetic and petrological-geochemical models of formation of the copper-molybdenum deposits of Armenia have been developed
- The three independent series of various ages have been identified within the ophiolites of Armenia: the true ophiolitic, alkaline intraplate-type, and island arc-type, all formed in different geodynamical settings; their ages have been determined and petrological models of their formation have been developed
- The geological and geodynamic features of formation of the young volcanic complexes of Armenia have been identified, their volcano-stratigraphy section has been established, and collision-zone magma generation models have been suggested based on the petrological and geochemical characteristics
- Isotope and geochemical studies of thermomineral waters of Armenia have demonstrated thermal anomalies associated with Quaternary volcanic areas. Studies of isotopes of $\delta^{13}\text{C}$ (CO_2) and $\delta^{15}\text{N}$ (N_2) have revealed the role of metamorphic-sedimentary and mantle derived carbon dioxide nitrogen
- Institute operates the only Geological museum in Armenia





A.NAZAROV INSTITUTE OF GEOPHYSICS AND ENGINEERING SEISMOLOGY

Established in 1961
Director: J.Karapetyan, PhD

5 V.Sargsyan, Gyumri 3115
Tel.: (+374 312) 3 12 61, Fax: (+374 312) 3 12 61
E- mail: iges@sci.am, website: www.iges.am

Scientific trends

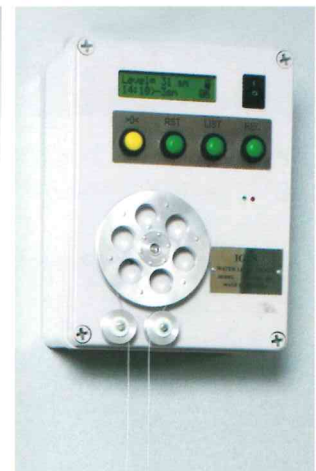
- Geophysics
- Regional geophysics
- Ore geophysics
- Geomagnetism
- •Paleomagnetism
- Seismology
- Prediction of earthquakes
- Engineering seismology
- Earthquake engineering
- Making & Manufacturing of geophysical instruments

Meaningful results

- Structural-dynamic, seismographic and geothermal 3D models of the RA crust have been built
- A new, predictable and adjusted map of seismic hazard assessment of 1: 500 000 scale of the territory of Armenia, expressed in terms of maximum soil acceleration rates has been created
- A seismic-tectonic model of the main focal zones for the territory of Armenia and nearby regions has been created. The physical processes occurring in the focal zones of strong earthquakes, preceding and subsequent seismic phenomena, have been investigated. Long-term and medium-term seismological precursors, characteristic of strong earthquakes occurring on the territory of Armenia, have been identified. Based on the instrumental data of the Caucasus Seismic Network, an average curve of seismic waves at the Earth's crust has been built for the territory of Armenia
- Spherical-harmonious models of velocities of the global geomagnetic field have been constructed, magneto-hydrodynamic processes have been described
- A new methodology has been developed for the search and prospecting of poor ore bodies with a complex of geophysical methods
- Integrated geophysical surveys of geothermal energy as an alternative source of energy for searching and prospecting have been carried out
- A new approach to geodynamic processes (in particular landslides) has been proposed for regional and local zoning
- Seismic impacts on new buildings and structures have been proposed for seismic resistant construction A remote mobile diagnostic system for buildings and structures has been developed and introduced, an express way of investigating the technical condition of buildings and structures has been proposed
- A new regional seismic intensity assessment scale has been developed. New methods and criteria for evaluating the quantitative parameters of seismic impacts have been developed



- Complex measures have been elaborated and implemented to ensure the safe exploitation of special reservoirs in Armenia. Remote piezometers, engineer-seismic control and measuring system have been developed and applied in Armenia for the purpose of monitoring and safeguarding strategic structures
- A new wide-band seismic sensor for regional, local seismic studies has been designed, developed and introduced
- A new small-scale production line has been established on the scientific-production base of the Institute, serial production of stationary and mobile water-meter stationary and mobile devices has been organized with a certain demand in the Armenian market, successfully used for safe operation of special purpose reservoirs of the Republic of Armenia
- Geophysical data logger with 16 inputs, hard drive memory has been developed, prepared and tested in field conditions
- A portable, vertical and horizontal vibration platform has been designed, developed and tested in field conditions





DIVISION OF ARMENOLOGY AND SOCIAL SCIENCES

INSTITUTE OF HISTORY

Established in 1943
Director: acad. A.Melkonyan

24 Marshal Baghramyan Ave., Yerevan 0019
Tel: (+37410) 529 263; Fax: (+37410) 560 269
E-mail: history@sci.am, patminst@sci.am
Website: www.academhistory.am

Scientific trends

- Formation of the Armenian people in the Armenian Highland
- The history of the ancient Armenian statehood
- Medieval history of Armenia
- History of the Armenian statehood in Cilicia
- History of the Armenian Church
- History of the Armenian national-liberation movements
- History of the Armenian Question and the Armenian Genocide
- History of Armenian press and public thought
- History of formation of the Armenian political trends, parties and ideology (the turn of the 19th century)
- Demographic processes in Armenia
- History of the 1st (1918-1920), 2nd (1920-1991), 3rd (from 1991) Republics of Armenia, history of the NKAR (Nagorno Karabagh Autonomous Region) (1923-1991), Nagorno Karabagh Republic (The Republic of Artsakh) (from 1991)
- History of the Armenian communities and diaspora
- Armenian historiography and source studies
- The World history issues

Meaningful results

- The Institute has published:
“The Armenian Code of Laws”, “The Memorable Records of the Armenian Manuscripts”, “The Minor Chronicles”, series “Foreign Sources on Armenia and the Armenians” (Assyrian, Byzantine, Greek, Arab and Turkish sources (in 14 volumes), “The works of A.Manandyan” (in 6 volumes), “Joining of Eastern Armenia to Russia” (in 4 volumes), “The Armenian Genocide in the Ottoman Empire”, “The Armenian Question and the Armenian Genocide in Turkey (1913-1919)” (materials of the political archive of Imperial Germany), “The Republic of Armenia in 1918-1920” (political history), “Nagorno-Karabakh in 1917-1923”, “History of Armenian Settlements” (from the Middle Ages to the 1920s) (in 3 volumes), “The history of the Armenian periodical press” (from 1794 to 1922) (in 2 volumes), documents and materials on the history of Armenian-Russian, Armenian-Ukrainian, Armenian-Moldovan, Armenian-Romanian, Armenian-Hungarian, Armenian-Bulgarian historical and cultural ties, etc
- The achievements of the Armenian historians during the Soviet period were summarized in the eight volume of the “History of the Armenian people” (1967-1984), it was awarded the State Prize
- The achievements of the Armenian historians reached during the period of Independence are introduced in the new academic edition of “The History of Armenian people” (in 4 volumes)
- The Institute publishes the collection of scholarly articles “Questions of History of the Armenian people”





INSTITUTE OF PHILOSOPHY, SOCIOLOGY AND LAW

Established in 1969

Director: acad. G.Poghosyan

44 Aram Str., Yerevan 0010

Tel.: (+374 10) 530 571

E- mail: gevork@sci.am

Website: www.ipsol.sci.am

Scientific trends

- History of the Armenian philosophy and aesthetic thought
- Theoretical philosophy, logic and methodology of science, social philosophy
- Sociology and political science: problems of the social transformations in Armenia, migration of population and political alienation
- Geopolitical situation in the region, consociative democracy
- Theory and history of law in Armenia, philosophy of law, the problem of relations between law and security

Meaningful results

- Foundation of the scientific school on the study of the Armenian philosophical heritage and aesthetic thought; publication of the fundamental books “History of the Armenian Philosophy” and a number of monographs, devoted to the philosophical concept of prominent old Armenian thinkers; the publication of the monograph “Problems of Theory and History of Aesthetics” and the anthology “The Figures of the Armenian Culture about Art”
- Development of the concept of transition from the traditional common problems of epistemology into the area of logic, philosophy and methodology of science; publication of the monograph “Philosophy. History. Culture”, and books “From the Logic Atoms to the Physical Laws”, “LMP fundamental theory”, translation into Armenian and publication of the classic work of the German philosopher Kant’s “Critique of Pure Reason”
- Study of socio-political problems of the modern Armenian society and development of the national models and strategies for the further modernization of the society; publication of books both in Armenia and abroad: “Armenian Society in Transformation”, “Modern Armenian Society. Peculiarities of Transformation”, “Armenian Society on the Threshold of the 21st Century”, “Armenia. The Alienated Society”, “Armenian Society in Transition”, “Armenian Migration”, “Migration and Depopulation in Armenia”, “One Nation - three Sub-Ethnic Groups”, “Karabagh Liberation Struggle in Armenian Political Consciousness”, “New World Order and Armenia”, “Power and Opposition: the Analysis of Political Discourse”, “Information Society: Socio-Political Problems”, “Features of the Political Culture in Armenia”
- Study of the main issues of the national legislation and law-enforcement practice, as well as theoretical problems of law and the history of the Armenian legal thought; publication of books: “Medieval Armenian Law and Political and Legal Thought in X-XIII Centuries”, “Problems of Theory and History of Law”, “Problems of Theory of Law. A Phenomenological Approach”, “The Need for a New Law understanding”, “The Questions of Justice”, “The Law and Crime”, “Philosophy of Law”





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

M.KOTANYAN INSTITUTE OF ECONOMICS

Established in 1955

Director: corr. member V.Harutyunyan

15 Grigor Lusavorich Str., Yerevan 0015

Tel.: (+ 374 10) 581 971

Fax: (+ 374 10) 548 673

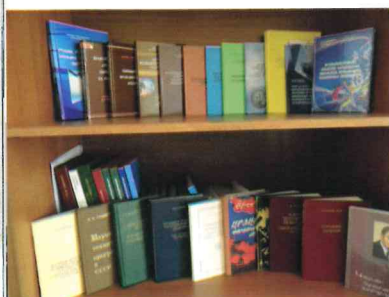
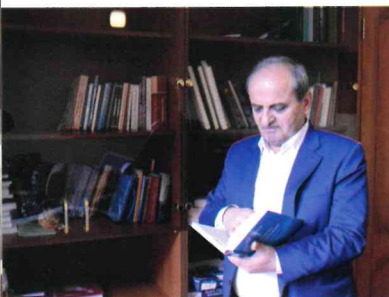
E-mail: info@economics.sci.am

Scientific trends

- Macroeconomic issues and finance
- Issues in the real sector of the economy
- Issues on developing the services sector and socio-demographic situation
- Theory research and the history of economic thought

Meaningful results

- Within the scope of the research on the Global Financial Crisis, the analysis of characteristics of implemented specific measures and instruments of macroeconomic policy and the current state of affairs with respect to the economic issues in the Republic of Armenia has enabled to highlight the prospects of the economic development and provide approaches to address those issues
- By identifying and estimating the features of socio-demographic and historical development, the forecasts on the demographic situation in Armenia over the long-run period are provided, namely for various stages of the long-run period
- As a result of the study on the history of Armenian economic thought, a 2-volume scientific-biographical encyclopedia has been published that can serve as a primary source for various scholars and further research
- The estimates on the quantities of heavy metals and toxic elements released into the environment owing to the extraction of noble metals, and the assessment of the environmental damage of thereof on the example of Sotq and Meghradzor have been provided
- The Institute initiated and carried out a research project entitled “The Demographic and Material Losses of the Armenian People during the Genocide and the Issues on Compensation of Thereof”. The study provides the property profile of Armenians, and estimates on amounts required to restore the properties owned by Armenians who lived in the provinces of Bursa and Adana
- The Institute periodically publishes “The Contemporary Issues of Socioeconomic Development in the Republic of Armenia” Scientific Journal
- The results and findings of applied research conducted within the scope of various themes and projects are provided and/or submitted to the Government of Armenia in the form of policy recommendations and conclusions
- Many notable books, articles and papers have been published, namely: “Tax and Taxation”, “Evaluation of ore wastes and their environmental consequences in the mining industry”, “Economic status and material losses of Armenians Bursa during the Armenian Genocide”, etc.





H.ACHARYAN INSTITUTE OF LANGUAGE

Established in 1943
Director: Dr V. Katvalyan

15 Grigor Lusavorich Str., Yerevan 0015
Tel.: (+374 10) 565 337
E-mail: inslang@sci.am
Website: <http://www.language.sci.am>

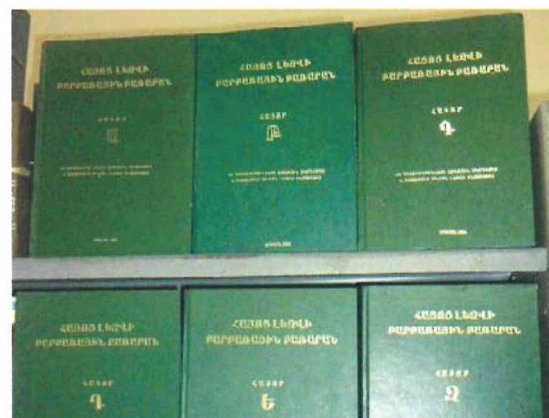
Scientific trends

- Structure, function, and history of the Armenian language
- Issues on historical and comparative grammar of the Armenian language
- Literary Eastern and Western Armenian languages
- Issues on colloquial Armenian language study
- Issues of studying Armenian dialects
- Issues on applied, computer, cognitive, text linguistics, sociolinguistics and psycholinguistics
- Issues on literary language regulation and terminology development
- Issues on didactic linguistics
- Compilation of etymological, spelling, bilingual, dialectological dictionaries, dictionaries of neologisms and handbooks of terms



Meaningful results

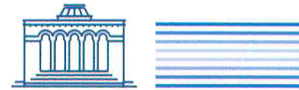
- The pre-historic period of the Armenian language, the latest period of Western Armenian language, a number of realities of the Armenian historical grammar (phonetics and lexicology) have been studied and described
- The main common features of Middle Armenian phonetics, grammar and vocabulary have been determined and described
- The analytical type of word-building in Grabar (Old Armenian) has been described, a number of lexico-semantic groups from Grabar word-stock have been studied
- The findings on the structure and functioning of contemporary literary Eastern Armenian have been summarized
- The Armenian dialectology has been supplemented with research findings on separate dialectal units and parallel forms, a database of territorial versions of the Armenian language has been created by making recordings and studies of live dialectal speech, digitization of parallel forms has been implemented
- Specialized linguistic and bilingual dictionaries have been compiled
- The Institute has published:
 - “Modern Armenian Language”, a triple-volume edition of academic grammar
 - “Outlines of History of the Middle Literary Armenian” (a double-volume edition)
 - “Explanatory Dictionary of Modern Armenian Language” (in four volumes)
 - “Explanatory Dictionary of the Armenian Language” (in four volumes)
 - “Russian-Armenian Dictionary” (in four volumes)
 - “Armenian-Russian Dictionary”
 - “Dictionary of Armenian Dialectal Words” (in seven volumes)
 - “Armenian Etymological Dictionary”
 - “History of the Armenian Language. Pre-Written Period”
 - “Armenian Dialectological Atlas Compilation Project”
 - “Dictionary of Grabar (Old Armenian): words not cited in the New Haykazyran Dictionary”
 - “New Words” (a dictionary of neologisms in 3 volumes)





- “Kurdish-Armenian, Armenian-Kurdish Everyday Dictionary”
- Authored concordances /about 30 volumes/, a website of concordances
- “Western Armenian Grammar (Regulation and Problems)”
- The Institute has also published periodicals:
 - “Language and Style Issues”
 - “Issues of Armenian Language History”
 - “Comparative Grammar Issues of the Armenian Language”
 - “Issues of Terminology and Speech Culture”
 - “Armenian Dialectological Atlas”
 - “Jahukyan Readings”
 - “Collection of Scientific Papers of the Young Linguists’ Republican Conference”
 - “Language and Linguistics”
 - “Comparative analysis of Russian and Armenian languages” (“Сопоставительный анализ русского и армянского языков”)





M. ABEGHYAN INSTITUTE OF LITERATURE

Established in 1943

Director: Dr. V.Devrikyan

15 Grigor Lusavorich Str., Yerevan 0015

Tel.: (+374 10) 563 254, Fax: (+374 10) 563 254

E-mail: litinst@sci.am

Website: www.litinst.sci.am

Scientific trends

- Ancient and Medieval Armenian literature
- Classic Armenian literature
- Modern Armenian literature
- The literature of Armenian Diaspora
- The academic publication of classic Armenian literature
- Foreign literature
- Literary connections
- Theory of literature
- The annuals of classical Armenian writers' life and activity
- The V-XVII centuries Armenian literary primary sources of the European works
- Armenia and the Armenians in the European travelogues of the XVI-XIX centuries
- The folklore of the Armenian colonies of the Eastern Europe
- On the traditions of the Eastern Europe Armenians migrated from Ani

Meaningful results

- The Institute has published:
 - The history of Armenian literature of the new period (in 5 volumes)
 - The history of Armenian critical thought (in 2 volumes)
 - The history of the historical novel
 - The chronology of the Armenian literature in the new period (1801-1875, in 3 volumes)
 - The annual of the soviet Armenian literature (1917-1975)
 - Hovhannes Toumanyan. Research and documentary (in 6 volumes)
 - The bibliography of the Armenian criticism
- Books have been published based on the contemporaries' memoirs of Raffi, Ghevond Alishan, Misak Metsarents, Hovhannes Toumanyan, Eghishe Charents and other classical writers
- The complete scientific (academic) publications of the works of Armenian classics such as Kh.Abovyan, M.Nalbandyan, R.Patkanyan, Raffi, H.Paronyan, P.Duryan, Siamanto, Muratsan, Gh.Aghayan, Shirvanzade, P.Proshyan, H.Hovhannisyan, D.Varuzhan, H.Toumanyan, M.Abeghyan, A.Bakunts, E.Charents, D.Demirchyan have been realized
- The volumes of series of "Literary connections" and "Russian-Armenian literary connections" have been published, as well as separate manuals have been dedicated to the connections of the Armenian literature with the literatures of other countries
- Hovhannes Toumanyan's annual of life and creative work has been published (the two volumes include 1869-1908 and 1909-1914 periods)
- Currently the complete scientific publications of works of A. Isahakyan, Levon Shant, Nikol Abeghyan are being realized





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

INSTITUTE OF ARTS

Established in 1958

Director: corr. member A.Aghasyan

24/4 Marshal Baghramyan Ave., Yerevan 0019

Tel.: (+374 10) 583 702, Fax: (+374 10) 581 109

E-mail: instart@sci.am

Website: www.arts.sci.am

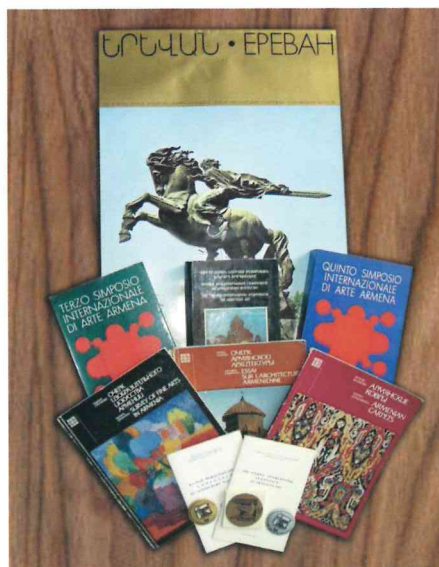
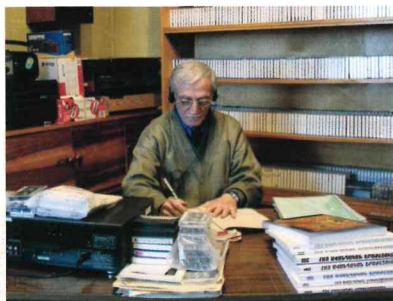
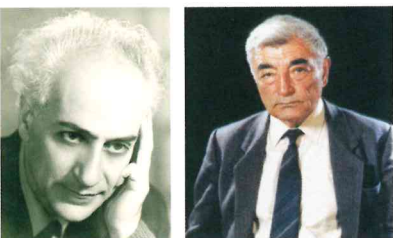


Scientific trends

- Complex study of Armenian artistic culture
- History and theory of visual arts, decorative and applied arts, design
- History and theory of architecture, urban development
- Musicology, musical folkloristics
- Theatre studies, cinema studies
- The art of Armenian diaspora
- Publication of the creative legacy of the classics of Armenian art
- Terminological dictionaries on art
- The problems of modern Armenian art

Meaningful results

- The scientific substantiation of the reconstruction of the heathen temple of Garni
- Publications:
 - The multi-volume series "Documents of Armenian Architecture" in the Italian, Armenian and English languages (Milan)
 - Volumes 1-3 of the six-volume history of Armenian architecture
 - Essays on the history of Armenian visual arts
 - The series "Armenian Traditional Music"
 - The multi-volume chronicle of the Armenian theatre of the XIX - XX centuries
 - The complete set of works by Alexander Spendiaryan in 11 volumes, the collected works by Komitas in 14 volumes
 - Collections of scientific papers and fundamental studies on various spheres of Armenian art





INSTITUTE OF ORIENTAL STUDIES

Established in 1971
Director: acad. R.Safrastyan

24/4 Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+374 10) 583 382
E- mail: info@orient.sci.am
URL: www.orient.sci.am

Scientific trends

- History, culture of the Middle East, Eastern Asia and Caucasus and international relations, contemporary regional problems
- Studies on the history, domestic and foreign policy, socio-economic situation, ideologies, policy of Genocide and other principal issues of the Ottoman Empire and Republic of Turkey
- Studies on the history of the trends of socio-political and spiritual-cultural development of Arabic countries, inter-Arabic, as well as Armenian-Arabic historical and political relations, the role of Islam and research of history of Armenian communities in Arabic countries
- Studies on the history of Iran, domestic and foreign policy, Iranian philology and Armenian-Iranian historical and cultural relations
- The main problems of the history of Christian Orient and Caucasus, Armenian-Byzantine political-confessional relations and Armenian-Georgian relations
- Studies on the main issues of history and culture of cuneiform and Hellenistic civilizations
- Study of Eastern sources, documents and their translation into Armenian
- Studies of the international relations and the policy of China and Japan in the Middle East and Transcaucasia



Meaningful results

- The Institute has published:
 - More than 500 books and collections of papers, as well as several thousands of scientific articles
 - “History of Neighbouring Countries of Armenia” (2 vol.), “Turkish Sources about Armenia and the Armenians” (4 vol.), “Arabic Sources about Armenia and Neighboring Countries”, “The Documents of the Matenadaran in Persian” (4 vol.), “History of Arabic Countries” (4 vol.), “History of Iran”, etc
 - Collections of articles and periodicals, namely “Countries and Peoples of the Near and Middle East” (31 vol.), “Contemporary Eurasia” (6 vol.), “Turkic and Ottoman Studies” (8 vol.), “Middle East” (12 vol.), “Caucasia and Byzantium” (5 vol.), “Ancient Orient” (5 vol.), “Eastern Asian Studies” (3 vol.), “Oriental Studies in Armenia” (3 vol.)





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

INSTITUTE OF ARCHAEOLOGY AND ETHNOGRAPHY

Established in 1959

Director: corr. member P.Avetisyan

15 Charents Str., Yerevan 0025

Tel.: (+ 374 10) 556 896

Fax: (+ 374 10) 556 896

E-mail: pavetisyan@sci.am

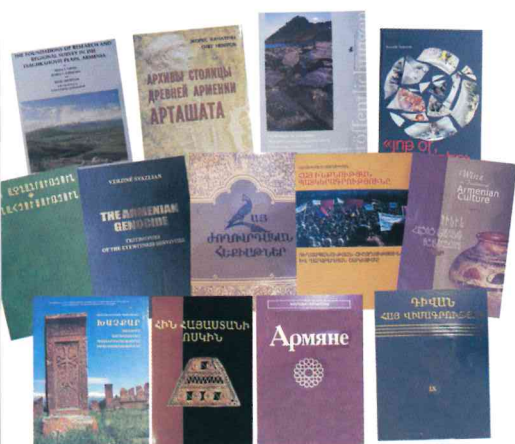
Website: iae.am

Scientific trends

- Archaeology
- Epigraphy
- Ethnography
- Ethnology
- Ethno-sociology
- Folkloristics
- Physical anthropology

Meaningful results

- Formation of Armenian school of material and non-material cultural heritage studies
- Formation and development of source basis for study of history of Armenian material and spiritual culture in ancient and medieval time
- Discovery and description of Stone Age, 7th-1st millennia BC archaeological cultures, as well as developments of ancient societies, archaeological reflections of ancient state formations, multi-layered niveaus of Armenian material and spiritual culture of Classical and Christian periods
- Excavations and investigations of hundreds of sites from Neolithic to Bronze Age, from the period of Van Kingdom to Classical times and Middle Ages
- Gathering, deciphering and interpretation of hundreds of epigraphic inscriptions from the Armenian Highland and Diaspora
- Investigation of Armenian economic life and habits, ethnographic reflections of material and spiritual life, traditional and modern social relations, beliefs, cult and ritual
- Recording, investigation and publication of a great deal of material on different folkloristic genres, essential researches in spheres of Armenian mythology and folklore
- Publication of many monographs as well as periodicals such as "Archaeological excavations in Armenia" (23 volumes), "Archaeological Sites of Armenia" (21 volumes), "Corpus of Armenian Epigraphy" (10 volumes), "Armenian Folk Tales" (18 volumes), "Armenian Ethnography and Folkloristics" (26 volumes)





SHIRAK CENTER FOR ARMENOLOGICAL STUDIES

Established in 1997

Director: Dr. S.Hayrapetyan

5 V. Sargsyan Str., Gyumri 3101

Tel.: (+374 0312) 6 94 77, 6 13 53

E- mail: hkentron@mail.ru

Website: www.shirakcenter.sci.am

Scientific trends

- Investigation of new archaeological monuments in the territory of the region
- Old history of the Akhurian river basin in the first millenium BC (tribes, tribal countries, traditions, faith, mythology)
- Shirak's new and modern history (social-political, social and cultural life of Alexandrapol and its province)
- Alexandrapol-Leninakan-Gyumri's material and spiritual culture
- Ethnopsychological studies in the disaster zone (mental resilience in stressful situations, disaster folklore)
- Shirak's folk music and compository heritage, a history of Alexandrapol's band school
- Shirak's modern dialects

Meaningful results

- Discoveries have been made of 10 archaeological monuments, among them: antique micropleus of Benyamin, the cave suburb of Ani situated in the Akhurian Gorge, Haykadzor's Late-Urartian castle-settlement, the Early Bronze Age templar complex of Mets Sepasar, Azatan's three-layered monument, etc
- An investigation has been carried out on some disputable issues concerning Shirak's historical province, the demography and political history of Alexandrapol province, social-political and educational and cultural life
- The region's ritual and festive system is being investigated, modern transformations of national holidays and ceremonies are being characterized
- The Institute has published:
 - 20 volumes of the periodical collection of articles of the Center's "Scientific Works"
 - 9 collections of international conference materials on "Shirak historical and cultural heritage"
 - 2 printing press of the series "Shirak archaeological and historical and ethnodemographic studies"
 - 20 monographs





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

“ARMENIAN ENCYCLOPEDIA” PUBLISHING HOUSE

Established in 1966

Editor-in-chief-director: Dr. H.Ayvazyan

15 Grigor Lusavorich Str., Yerevan 0015

Tel.: (+374 10) 524 341

Fax: (+374 10) 524 341

E-mail: encyclop@sci.am

Website: www.encyclopedia.am



“Armenian Encyclopedia” Publishing House was founded in June 1966 as a part of the national awakening wave in the 60’s. It offered the opportunity to systematize the millennium-old Armenian history, culture, demographic development, and socio-political life; represent the state with its political structure and achievements in the spheres of economics, education, science, etc.; portray the flora and fauna, architectural monuments, the Armenian Apostolic Church, and the Armenian Diaspora.

In 1974-1987 100.000 copies of the multi-volume (12+1) Soviet Armenian Encyclopedia (SAE) were printed, unprecedented in Armenian publishing. Victor Ambartsumian, President of the Academy of Sciences, was the first Editor-in-Chief and the permanent President of the Editorial Board. The SAE was awarded Armenian State Prize in 1988.

Subject encyclopedias on various fields, including Children’s Encyclopedia, have been published since 1990. All editions are first of their kind in Armenian print and have great scientific value.

Editors-in-chief of the Armenian Encyclopedia were: Victor Ambartsumian (1966-1974), Abel Simonyan (1974-1979), Makich Arzumanyan (1979-1988), Kostandin Khudaverdyan (1988-1999), Hovhannes Ayvazyan (since 1999).

List of Main Publications

- “Soviet Armenian Encyclopedia” (in 12+1 volumes, 1974-88, 100.000 copies, Soviet Armenian State prize in 1988)
- “The Armenian Abridged Encyclopedia” (in 4 volumes, 1990-2003)
- “Encyclopedia of Home Maintenance” (1997)
- “The Popular Medical Encyclopedia” (2001)
- “The Flora and Fauna of Armenia” (2002)
- “The Armenian Question” (1990 in Russian, 1996 in Armenian)
- “Christian Armenia” (2002)
- “The Armenian Diaspora” (2003)
- “The Karabagh Liberation War 1988-94” (2005)
- “Who’s Who: Armenians” (in 2 volumes, 2005-2007)
- “Armenia: Encyclopedia” (2012)
 - “What? Who?” (Children’s Encyclopedia in 4 volumes, 1984-1987)
 - “Voskeporik” (“Children’s Encyclopedia in 3 volumes”, 1990-1999)
 - “The Big School Encyclopedia” (in 2 books, 4 volumes, 2007-2010)
 - “Encyclopedia of the Armenian Book Publishing and Book Art” (2015)
 - “Agricultural Encyclopedia” (2015)
 - “Encyclopedic Dictionary” (in 2 volumes, 2016-2018)
 - Works in Progress
- “Encyclopedia of Armenian Music”
- “Encyclopedia: Hovhannes Toumanyán”





INSTITUTIONS UNDER PRESIDUM NAS RA

INTERNATIONAL SCIENTIFIC-EDUCATIONAL CENTER

Established in 1997
Director: Dr. A.Sargsyan

24/D Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+ 374 10) 568 068, Fax: (+ 374 10) 524 812
E-mail: isec@sci.am
Website: www.isec.am

Main activities

- Preparation of scientific brainpower through Master's and PhD programs

Major achievements

- Organization of education in PhD programs
- Offering over 31 Master's degree programs in full-time and part-time study modes
- Offering "Business Administration" online Master's degree program
- Establishing new professional chairs using the scientific, technical and space facilities of the research organizations of NAS RA
- Expansion of international ties and implementation of mobility projects for students and academic staff
- Training of the academic staff
- Continuous modernization of technical facilities for teaching and learning and introduction of new technologies
- Implementing non-formal educational projects
- Permanent supervision of education quality assurance



FUNDAMENTAL SCIENTIFIC LIBRARY

Established in 1935
Director : K.Minasyan

24/6 Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+374 10) 524 750
E- mail: karo@flib.sci.am
Website: <http://www.flib.sci.am>

Collections- 3,052,084 copies, 868,570 of which in foreign languages

Main directions of activities

- Research work in the field of library science, bibliography, information and history of the book
- Coordination of scientific information activities between large libraries and information centers of the Republic
- Management, scientific, cultural and book exchanges relations with foreign libraries and other information centers
- Design and implementation of an electronic library modules
- Digitization of the scientific heritage of NAS RA and library collections, creation of electronic databases





- Creation and support of web sites with open access with armenological contents
- Personnel training on research and information profile

Results of activities

- Publishing activities
 - Bibliographies of publications of NAS RA (1936-1986, 15 volumes)
 - Series on biographical bibliographies "Materials on Biographical bibliographies of Scientists of Armenia" (63 issues)
 - Thematic bibliographies (23 issues)
 - Bibliology (2 monographs)
- Electronic library
 - Digitization of library collections, creation of databases
 - An electronic catalog of FSL has been created:
up to 01.06.2018 - 619,462 bibliographic units have been inserted, including all books in Armenian
 - Digitizing and posting the "Armenian book" on Internet
 - rare books (1512-1800) - 796 copies
 - books of the early period (1801-1850) - 1338 copies
 - books of the later period (1851-1900) - 2359 copies
 - books of the later period (1901-1920) - 1404 copies
 - Unique publications and books in foreign languages containing Armenian fragments - 22 copies
 - The following electronic databases have been created and posted on Internet:
 - scientific journals of NAS RA, more than 126,300 articles
 - 49 titles of academic and other periodicals and serials on Armenian Studies
 - 1018 publications
 - "Biographical Bibliographies of the Academicians of NAS RA", "Presidents of NAS RA" - 189 copies
 - "Armenian book printing 400" - 901 copies
 - from the cycle "Daredevils of Sassoun" - 32 copies
 - Bibliographic lists - 205 copies
 - from the cycle "Founding Academicians" - 231 monographs authored by academicians
 - The portal of Armenian studies "Haykakank" (ARMENIACA) has been issued and posted on the Internet, consisting the following databases:
 - monographs, periodicals and serial publications of armenological directions issued by NAS RA
 - most valuable Armenian publications on Armenian studies



The concise version of "Universal Decimal Classification" has been translated into Armenian by the staff of the library and posted on the Website

NATIOANAL BUREAU OF EXPERTISES

Established in 2004

Director: A. Hovsepyan, PhD

24 Admiral Isakov Ave., Yerevan 0004

Tel.: (+374 10) 777 710, 777 575

E-mail: info@nbe.am

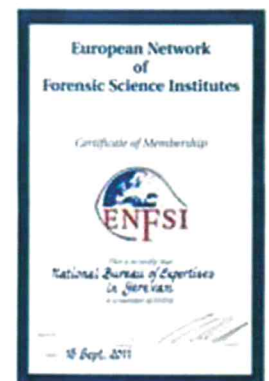
Website: www.nbe.am

Scientific trends

- Organization and performance of scientific-research, scientific-methodological, scientific-technical, scientific-testing activities with a view to insurance and improvement of the expertise designated by competent authorities
- Systematization of the existing research methodology, the processing of new methods, their testing and guarantee for use with the aim of ensuring the methodological unity of forensic expert studies
- Study of causes and conditions generating crime, scientific development of exact measures aimed to prevent the crimes and preparation of appropriate suggestions for their investment
- Developing, testing and implementing modern scientific experimental methods, scientific and technical resources in the field of expertises designated by criminal prosecution and justice administration bodies
- Realization of relevant scientific and educational activities, development and implementation of program-abstracts aimed to organize education and training of those competent bodies who have the responsibility to obtain initial data and who are authorized to designate expertises
- Performance of relevant scientific and educational activities for the purpose of training and improvement of specialists in the field of expertises, as well as development and implementation of materials in connection with confirmation of their qualification as prescribed by law of the RA

Meaningful results

- Within the Criminal Procedure Code operating in the RA the organization carries out forensic expertise in 26 forensic types in about 122 forensic subtypes and technological directions
- The organization has realized a number of international and local programmes
- The organization has conducted international workshops
- In the last 5 years the employees of the organization published 12 manuals, more than 270 articles and theses in international and local scientific journals
- The organization has trained about 4112 employees of competent bodies who have the responsibilities to get the initial data for expertises and the authorities to nominate expertise
- National Bureau of Expertises has been equipped with new advanced technological and latest analytic equipment: 55 AA and 240Z AA atomic absorption spectrophotometer, Cellebrite UFED Touch Ultimate analytic software, NITON XL3T 980 GOLDD+ Analyzer, Agilent 7890A Gas Chromatograph, Agilent Cary 60 UV-Vis Spectrophotometer, LINTAB LTM06-E and other equipment





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

PUBLISHING HOUSE "GITUTYUN"

Established in 1936

Director: V.Hovakimyan, PhD

24/4 Marshal Baghramyan, Yerevan 0019,

Tel.: (+374 10) 581 823

E-mail: hovakimyan@sci.am

Website: www.githrat.am

Services and activities

- Publishing academic papers of NAS RA researchers (editing, proofreading, typesetting, design, etc)
- Publishing 14 academic journals
- A wide range of typographic and publishing services
- Typographic and publishing services by order
- Participation in national and international book fairs, competitions, exhibitions and other events

Scope of work

- Among the Armenian publishing houses "Gitutyun" is a leader in the field of science and research. It has published over 6800 books and journals the circulation of which reaches 5 million
- The publishing house has set its priority to publish books and series on Armenian Studies. Its publications include books on Armenian history, art and culture, as well as books illustrating the historical - cultural legacy of the Armenian nation, the movement of Artsakh, independence of Armenia, the Genocide of the Armenian nation, as well as the Armenian Diaspora
- Apart from publications related to diverse fields of science, the publishing house has also printed fiction, professional literature, as well as collected works of classical Armenian literature
- The restructuring procedures in the field of academic book publishing of the past years have significantly improved the quality of publications. The scientific publications exceed 2000 printed sheets annually
- A member of the Board of Publishing of the International Association of the Academies of Sciences, the publishing house has collaborated with academic publishing houses of CIS countries, positioning itself in the market of international book publishing industry
- Dozens of books, published under the imprint of NAS RA, have received the State Award, the award of the President of Armenia, as well as certificates issued by the CIS Association of the Academies of Sciences and the RA Ministry of Culture



DEPARTMENT OF INTERNATIONAL RELATIONS

Established in 1950
Chief: G.Evoyan

24 Marshal Bagramyan Ave., Yerevan 0019
Tel.: (374 10) 520 266
E-mail: fordep@sci.am
URL: www.sci.am

Cooperation with scientific institutions

- International Associations of Academies of Sciences (since 1993)
- International Council for Science (ICS)
- European Federation of Academies of Sciences (ALLEA) (since 2012)
- The Russian Academy of Sciences (since 1993)
- The National Academy of Sciences of Ukraine (since 1993)
- The National Academy of Sciences of Republic of Belarus (since 1995)
- The Academy of Sciences of Turkmenistan (since 1995)
- The National Academy of Sciences of Georgia (since 1997)
- The Academy of Sciences of Lithuania (since 2012)
- The Academy of Sciences of Romania (since 2013)
- The National Center of Scientific Research, France (CNRS) (since 2009)
- The Chinese Academy of Sciences (since 1998)
- The Academy of Sciences of Moldova (since 2013)
- The Austrian Academy of Sciences (since 2017)
- The Chinese Academy of Social Sciences (since 2017)
- The Indian Academy of Sciences (since 2002)
- The Southern Scientific Center, RAS (since 2004)



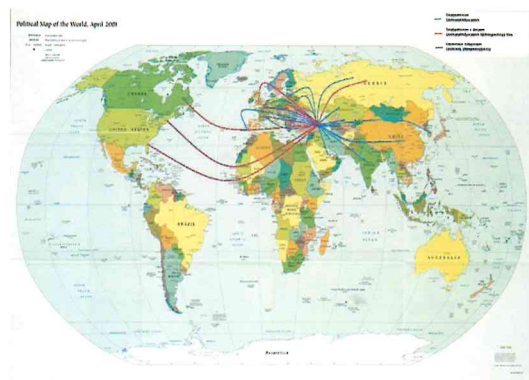
Cooperation with foundations

- The Armenian Benevolent Society, USA
- The “Hayastan” Foundation
- The “Piunik” Foundation
- The Armenian National Foundation of Science and Education, USA, (ANSEF)
- The International Scientific and Technical Center (ISTC)
- The 7th Framework Program of the European Union (EU FP7)
- The International Association in Facilitating Cooperation with Scientists from NIS of the Former Soviet Union (INTAS)
- The National Scientific Foundation of Switzerland
- The Belarus Republican Foundation of Basic Research



Joint laboratories

- A laboratory of Experimental Parasitology created by the Institute of Zoology of NAS RA and the Institute of Parasitology of RAN
- An International Laboratory 09-LIA-002 (SNRS-LIA) created by the Institute of Archeology and Ethnography of NAS RA and the National Center of Scientific Research (France)
- A Joint International Laboratory created by the Institute for Physical Research of NAS RA and the University of Burgundy (France)
- A Joint International Laboratory created by the Institute for Physical Research of NAS RA and the University Lion-1 of Claud Bernard (Vilurban)
- A Joint International Laboratory created by the Institute of Geological Sciences of NAS RA and the Lion University (France)





ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԳԻՏՈՒԹՅՈՒՆՆԵՐԻ ԱԶԳԱՅԻՆ ԱԿԱԴԵՄԻԱ
НАЦИОНАЛЬНАЯ АКАДЕМИЯ НАУК РЕСПУБЛИКИ АРМЕНИЯ
NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF ARMENIA

INTERNATIONAL S&T PROGRAMMES DEPARTMENT

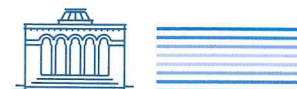
Established in 2008
Head: T. Arzumanyan

24 Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+374 10) 525 432, Fax: (+374 10) 525 432
E-mail: tarznip@sci.am, anip@sci.am
URL: <http://h2020.sci.am>



Main objectives and activities

- Promotion of participation of NAS RA Institutes in international grant programmes
- Development of research policy recommendations to encourage more active participation in grant programmes
- Assistance and consultancy on preparation and submission of project proposals for international grant programmes
- Assistance in partner search for joint research proposals
- Technology transfer and innovation services in the frame of Enterprise Europe Network
- Dissemination of information and awareness raising on international programmes
- Organization of national and international information and networking events
- Creation of database of research organizations and researchers
- Promotion of more active participation in grant programmes of other branch research organizations and researchers, as a part of activity as National Contact Point of the EU HORIZON 2020 Research & Innovation Programme
- EU H2020 website has been created and maintained: <http://h2020.sci.am>
- Clients' database and facebook page have been created (around 1000 clients/followers)
- More than 15 national and international events were organized during 2016-2018 and attended by around 300 researchers
- Partner to Enterprise Europe Network since 2016
- Support to around 30 researchers to attend international networking and brokerage events during 2016-2018
- Dissemination of in average 300 information e-mails annually
- Thematic H2020 National Contact Points are operating in 8 NAS RA institutes
- The Department staff has attended more than 50 international conferences, seminars and trainings during 2016-2018
- Participation in numerous international projects, including the following ongoing ones:
 - EU H2020 BSH (2015-2018)
 - EU H2020 EaP PLUS (2016-2019)
 - EU H2020 EEN Armenia (2017-2019)
 - COSME EEN Armenia (2017-2019)



DEPARTMENT OF DIASPORA

Established in 2008
Head: Dr. V.Barseghyan

24 Marshal Baghramyan Ave., Yerevan 0019
Tel.: (+37410) 523 640; Fax: (+37410) 523 640
E- mail: diaspora@sci.am

Major goals and tasks

- To encourage and to coordinate collaboration of foreign members of NAS with scientific organizations, research teams and individual scientists of NAS in order to contribute to the development of science and economy
- To support and to encourage foreign members of NAS in joint activities together with the Armenian educational organizations and those of NAS, in particular:
 - Realization of joint research and planning of development programs of research
 - Training and retraining of specialists
 - Assistance to the Institutes of NAS in obtaining contracts and reaching agreements with foreign scientific centers
 - Preparation of joint research, scientific articles and theses for international conferences
- To support the participation of the foreign members in scientific events and activities in Armenia
- To compile databases on Armenian scientists actively engaged in scientific events and activities in foreign countries
- To ensure access to information on the NAS activities to the foreign members of NAS RA



The number of foreign members of NAS RA according to research areas and countries

NN	Country	Division of Mathematical and Technical Sciences	Division of Physics and Astrophysics	Division of Natural Sciences	Division of Chemical and Earth Sciences	Division of Armenology and Social Sciences	Total
1	RF	12	8	11	11	8	50
2	USA	10	8	9	6	8	41
3	France	1	5	2	2	6	16
4	Germany		5	2			7
5	Great Britain	1		1	1		3
6	Italy					1	1
7	Sweden	1	1				2
8	Japan			2			2
9	Canada	1		1			2
10	Ukraine	1			1		2
11	Australia		1	1			2
12	Portugal					1	1
13	Iran	1					1
14	Greece	1					1
15	Belarus				1		1
16	Korea		1				1
17	Lebanon					1	1
Total		29	29	29	22	25	134



DEPARTMENT OF APPLIED PROJECTS

Established in 2017

Head: corr. member A.Hakhoumian

24 Marshal Baghramyan Ave., Yerevan 0019

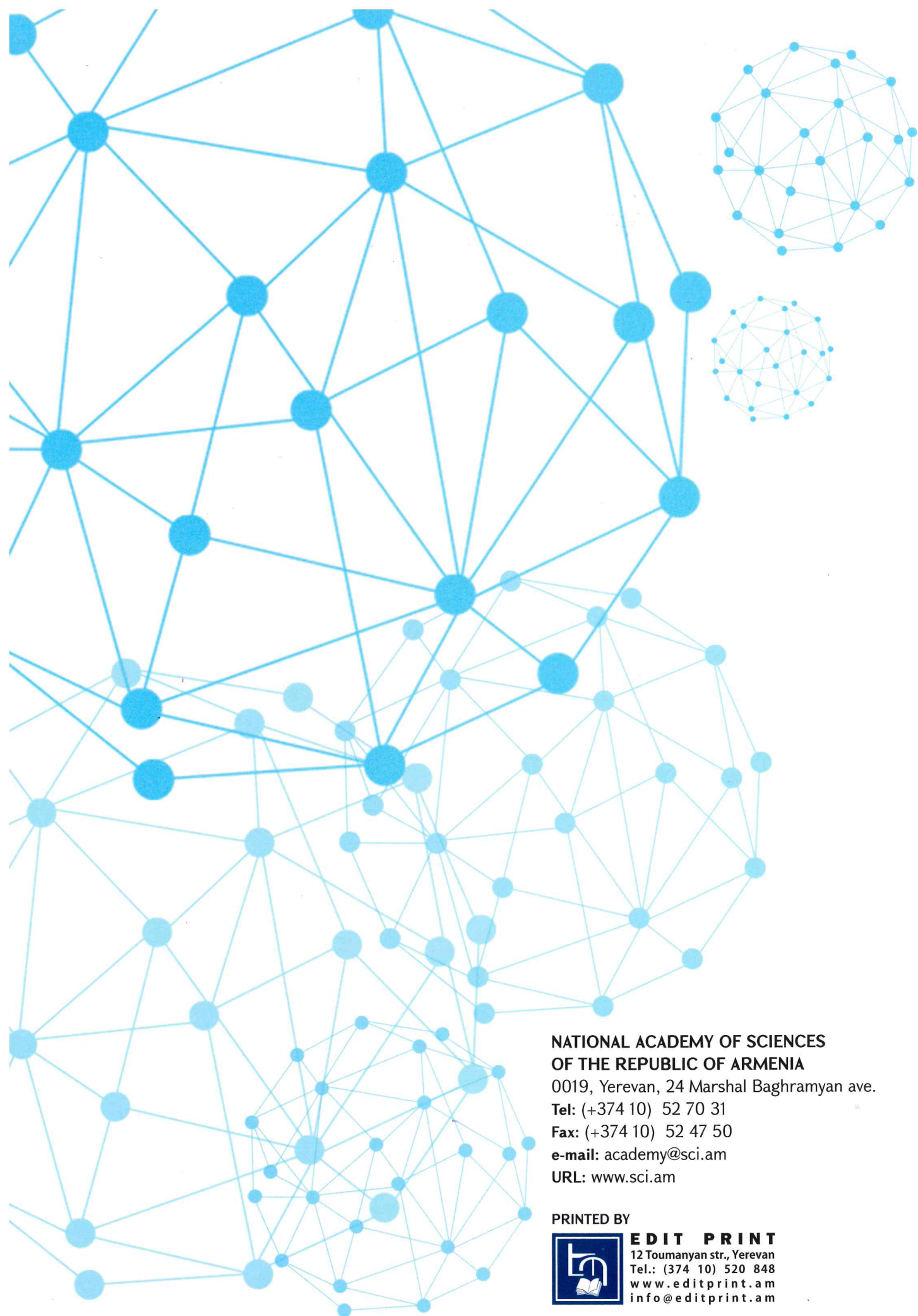
Tel.: (+374 10) 58 02 67

Fax: (+374 10) 58 02 67

E- mail: Innodep@sci.am

Main objectives

- Collection, classification and analysis of real applied results obtained in the course of fundamental, basic research and evaluation of their prospects for industrial implementation
- Application of scientific and organizational mechanisms for the efficient use of Armenia's research potential in development of R&D and innovation policies
- Direct participation in commercial exploitation of research (feasibility study, assessment, copyright and patent activity support and market survey)
- Providing technical assistance in technology transfer and innovations for scientific institutions, individuals, inventors, researchers, academic entrepreneurs and spotting most suitable solutions for finding potential business partners and access to local and international market
- Advertising Armenian technologies abroad by undertaking technology marketing actions solutions (company missions, international exhibitions, matchmaking events, etc.)



**NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF ARMENIA**

0019, Yerevan, 24 Marshal Baghramyan ave.

Tel: (+374 10) 52 70 31

Fax: (+374 10) 52 47 50

e-mail: academy@sci.am

URL: www.sci.am

PRINTED BY



EDIT PRINT
12 Toumanyany str., Yerevan
Tel.: (374 10) 520 848
www.editprint.am
info@editprint.am