

## **AZERBAIJAN SECTION OF THE INTERNATIONAL ACADEMY OF SCIENCE: ACHIEVEMENTS AND PROSPECTS**

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### **History of establishment**

Azerbaijan Section of International Council on Scientific Development of International Academy of Sciences was established 03 November 2003 by support of Eastern-European and Russian Sections of International Academy of Sciences. The establishment of Azerbaijan Section of IAS was devoted to the 100<sup>th</sup> anniversary of the twice laureate of Nobel Prize Laynus Poling- the founder and the first president of International Council on Scientific Development/ International Academy of Sciences

The founders of Azerbaijan section of IAS were: National Academy of Sciences, National Academy of Aviation, Baku State University, Azerbaijan University of architecture and construction, Azerbaijan Medical University, Azerbaijan Technical University, Azerbaijan Economical University, University "Khazar", ISTC "INTERGEO-TETHYS" and other organizations.

### **Scientific activity**

Three International Symposiums, three conferences and three scientific seminars has been by Azerbaijan Section of IAS during its activity period:

-International symposium "The problems of ecology and technology at extreme conditions" was held jointly with association "FOVGAL" 8-10 October 2002.

-International symposium "Cyclic recurrence and cosmological problems", devoted to the 80<sup>th</sup> anniversary of the President of Azerbaijan Heydar Aliyev jointly with Shamakha Astrophysical Observatory which was held at Shamaha Observatory with participation of scientists from Germany Russia and Iran 3-4 May.

-Azerbaijan and Russian Sections of International academy of sciences jointly with Ministry of education of Russia held big international symposium "Problems of rhythms in natural science" in Moscow on base of Russian university of Friendship of Nations 1-3 March, 2004. Scientists from USA, Japan, Germany, Austria, Russia, Azerbaijan, Ukraine and other states participated at symposium. Russia and Azerbaijan were chairing at symposium

-Two international conferences, conducted jointly with association FOVGAL and University of architecture and construction on problems of extreme situations and safety of vital functions were held in 2002 and 2003.

-Scientific seminars with participation of professor of Hamburg University of Severin Duda (seismology), Professor, the President of Eastern- European Section of IAS Karl Hecht were held.

### **Organization activity**

Presidium of Azerbaijan section of IAS rewarded Academician Telman Aliyev with golden breastplate and Prize after Nasreddin Tusi for his prominent merits in the sphere of science and publication of fundamental scientific monograph in USA, in 2003.

Azerbaijan Grand master Teymur Rajabov was rewarded by golden breastplate of Azerbaijan section IAS and Prize after Nusreddin Tusi for his prominent merits in the sphere of intellectual activity, particularly, at international chess tournaments.

The President of Azerbaijan Heydar Aliyev was elected as Honored Academician of Sciences in 2003. He was handed over the golden breastplate after Nobel Laureate Pavlov for his prominent merits shown in development of science and education in Azerbaijan

During these years Azerbaijan section of IAS has published five books, including scientific works and monographs and also four joint sets of materials of conferences.

Azerbaijan section of IAS shot two scientific-popular animation films "Universe and we" and "Rhythms and Universe", which were demonstrated at international symposiums in Moscow and Baku, film, devoted to the history of establishment Azerbaijan Section of IAS, and also film, devoted to jubilees of International Academy of Sciences.

The official site of Azerbaijan section of International Academy of Sciences has started functioning since 2002 ([www.intacademy.com](http://www.intacademy.com))

Co-president of AS of IAS E. Khalilov participated at International conference in Sao Paolo, Brazil, which was organized with participation of International Academy of Sciences and participated at the out session of the Presidium of International Council on Scientific Development/International Academy of Sciences, where he was elected, as a member of Presidium of International Academy of Sciences.

Presidium of IAS ICSD rewarded the Rector of National Academy of Sciences of Azerbaijan, Academician of National Academy of Sciences of Azerbaijan, Academician of ICSD/IAS, Doctor of physical and mathematical sciences, Professor Pashayev Arif Mirjalal and Academician of Russian Academy of Sciences, Academician of ICSD/IAS, Doctor of geological - mineralogical sciences, Honored professor of MSU after M.V.Lomonosov Viktor Yefimovich Khain with golden breastplates after laureate of Nobel Prize Pavlov for prominent merits in 2004.

Academicians of Russian Academy of Medical sciences and ICSD/IAS, Professors Sudakov Konstantin Viktorovich and Karl Gekht were rewarded by Azerbaijan section of IAS with golden breastplate in 2004.

Azerbaijan section accomplishes joint programs in many directions, including medicine, geophysics, astrophysics, biophysics, geology etc.

### **Residence and subdivisions of AS of IAS**

*Residence of Azerbaijan Section of International Academy of Sciences/International Council on Scientific Development was opened in June, 2003. Following subdivisions started functioning in the building of Residence of AS IAS: -Scientific-research institute on prediction and study of earthquakes; -Scientific Center of fundamental and applied researches; -Scientific industrial company "Yeni-Tex"; - Scientific industrial company "Elm Dunyasi"; -Center of GIS technologies; -Laboratory of space researches; -Laboratory of physiological researches and diagnostics; -Studio of production of scientific and popular films "Elm Dunyasi" -Publishing office "Elm Dunyasi"; -Guesthouse "Elm Dunyasi"; -Conference hall for 80 persons; -Small hall for conferences; -Cafe-bar for employees and guests of Academy; -Training center -Computer center*



**Photo of the building of Residence of Presidium of Azerbaijan Section of International Academy of Science**



**Photo of the building of scientific research center of Azerbaijan Section of International Academy of Science**

### **The most important scientific achievements of AS of IAS**

One of the most important achievements of AS of IAS are the results of scientific researches on registration of super long gravitational waves.

For the first time in the world, the detector of super long gravitational waves (SGW) ATROPATENA is put into operation, where absolutely new physical principle, not used earlier, is applied. The author and the manager of the project GEOCOS is geophysicist, doctor of sciences and professor Elchin Khalilov. Elchin Khalilov is the Director of Scientific Center of Fundamental and Applied Researches. The objective of the project is registration of SGW, detection of relation between astrophysical and geophysical processes and detection of causes of variation of measured values of gravitational constant  $G$ .

-For the first time original conception, explaining variations in time and space of values of gravitational constant  $G$ , observed by different scientists of the world.

-Installation for study of gravitational quantum effects "G-Quantum" was established on polygon AS IAS, where, for the first time, it was possible to detect experimentally gravitational quantum effects.

-Research on study of influence of solar activity and geophysical factors on brain activity

-Variations of gravitational field of the Earth on the eve of strong earthquakes, located at the distance of more than 1000km from registering station were established.

-Effects of gravitational screening at Moon and Solar Eclipse were established

-Gravitational effects at greatest confrontation of Mars and at approaching of Venus to the Earth were registered

### **Prospects**

International Inter-disciplinary project "GEOCOS" was developed at Azerbaijan section of IAS.

The aim of researches is registering of super long gravitational waves and study of the possibility of their influence on geophysical processes. The main tasks of researches are:

-study of possibility of influence of SGW on indications of Cavendish balance during measuring of G value;

-study of possibility of influence of SGW on atmospheric processes;

-study of possibility of influence of SGW on processes in ionosphere and on solar activity;

-study of possibility of influence of SGW on geophysical processes (variations of geophysical fields, changing of spectrum of seismic noises, etc.); -study of possibility of influence of SGW on geodynamic processes (activity of the earthquakes, volcano eruptions, slow movements of the Earth crust, movements of lithosphere plates, etc.)

Presently, Scientific-research institute on prediction and study of earthquake, Shamakha Astrophysical Observatory and Abastumani Astrophysical Observatory joined to the project.

In 2004 was concluded a treaty about cooperation between Azerbaijan Section of International Academy of Science and Russian University of Friendship of Peoples.

It is planned to conduct in 2005 International conferences jointly with Russian University of Friendship of Nations and Russian section of International Academy of Sciences named:

1. "Modern technologies in medicine"

2. "Diseases of civilization in aspect of conception of V.I.Vernadskiy".

In 2005 is planned to publish the second volume of Transactions of the International Academy of Science. Besides, beginning from 2005, it is planned to begin to publish once a quarter the bulletin of the International Academy of Science in English.

It is planned to conduct International conference on problems of seismic resistant construction and architecture jointly with Azerbaijan University of architecture and construction in 2005.

It is planned to conduct joint international conferences and seminars with association FOVGAL, Shamakha Astrophysical Observatory and other organizations in 2005.

**Academician of IAS,  
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President of Azerbaijan Section of International  
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