

# The Hungarian Academy of Sciences

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The Hungarian Academy of Sciences was established by the Nation in order to cultivate the Hungarian language and to serve science and scholarship. Since its foundation it has been a national public institution that presently functions as a public-law association in keeping with the Act on the Academy No. XL of 1994 as amended in 2009.

The Academy, as a public body, is composed of academicians and other representatives of the sciences with an academic degree.

## A brief historical survey

The Hungarian Academy of Sciences was founded by the will of 19th-century patriots.

Founded in 1825, the Learned Society, or the Hungarian Academy of Sciences (as it came to be called after 1845), worked successfully up to 1848 in developing the Hungarian language and literature and the national theater. It espoused the collection of Hungarian folk poetry, posted competitions for the solution of questions of national interest, and commissioned the writing and translation of plays. It laid the foundations for scientific book and journal publishing in Hungary. It regularly awarded prizes for outstanding scientific and literary achievements. The new bylaws were adopted in 1869 and, with a few modifications, remained in force until 1945. According to the bylaws, the Academy's aim was the study of science and - adhering to the traditions of the reform period - the study and propagation of literature in Hungarian. The bylaws defined three scientific sections: I. Linguistics and Aesthetics; II. Philosophical, Social, and Historical Sciences; III. Mathematics and Natural Sciences.

During the interwar period a peculiar situation set in at the Academy. The leadership represented the conservative ideals of the pre-World War One period, yet outstanding scientists, who made their mark in their respective fields, joined its ranks. A number of them gained international fame, including Albert Szent-Györgyi, Nobel-Prize-winning biochemist; Ottó Titusz Bláthy and Kálmán Kandó, mechanical engineers; Sándor Korányi, physician; Géza Zemplén and József Vargha, chemists; Béla Bartók and Zoltán Kodály; Zoltán Gombocz and Miklós Zsirai, philologists; Gyula Szekfű and István Hajnal, historians; János Horváth, literary historian; Farkas Heller, economist; István Györffy, ethnographer and Sándor Jávorka, botanist.

Act XXVII of 1949, modelled on the Soviet example, integrated the Academy into the newly developing political and institutional system, thus ending its autonomy and placing it under direct Communist Party and state control. In spite of the distortions often forced onto it, or the voluntarily assumed one-sided practices, and mistakes, important achievements mark the period from 1949 through 1989. Unquestionably, the most important contribution the Academy made to Hungarian science - besides the achievements of its members - was the theoretical work done at the research institutes and its application in practice.

According to Act XL of 1994, the Academy is a scholarly public body founded on the principle of self-government, whose main task is the study of science, the publicizing of scientific achievements, and the aid and promotion of research. HAS managed to maintain its high profile in the country's research and higher education structure.

The **building of the Academy**, inaugurated in 1865, was built as one of the first yet most mature and valuable historicising examples of the neo-Renaissance style. The harmonious, building, richly ornamented both inside and outside, has always been a distinctive element of the cityscape. The Prussian king's architect, Friedrich August Stüler brought to Hungary a blend of the Renaissance style of Northern Italy and the Neo-Renaissance tendencies of Berlin. In addition to designing the main facade and the floor plan, he played a decisive part in the selection of the architectural and sculptural ornaments that have become a distinctive feature of the building.

HAS's headquarters is one of the best known, most stately buildings of Hungary. It frequently hosts world upscale concerts and literary events. Choice repositories of Hungary's national heritage, its picture gallery and manuscript collection receive many thousands of visitors every year. It also houses the István Széchenyi Academy of Literature and the Arts, an organization for the best writers and artists living in Hungary today. With its culinary and wine-tasting events, the Academy Club, also in HAS's headquarters, attracts scientists, artists, and leading figures of the economy almost every evening of the week.

## Organisation and mission

The **General Assembly** is the supreme body of the Academy, constituted by ordinary and corresponding members and 200 representatives of non-academician members who are elected by secret ballot for a three-year term.

The General Assembly adopts the Statutes, the Bylaws and the annual budget of the Academy and determines the science policy principles and programmes affecting the entire work of the Academy. It discusses and approves the biennial report submitted to Parliament on both the Academy and the general state of science in Hungary, and the annual report presented to the Government on the Academy's activities. The General Assembly elects - for a three-year term - the leading officials of the Academy, and the members of both the Presidium and the Council of the Academy's Research Units.

In between General Assemblies the Academy's supreme decision-making body is the Presidium. The Governing Board is a body designed to prepare the Presidium's decisions and to participate in the execution of duties that require operative guidance by the Academy or its research network.

**Present Chief Officers** (elected by the General Assembly in 2008) are the President of HAS, Professor József Pálincás, F.M., and the Vice-Presidents for the Natural Sciences (Prof. Norbert Kroó, F.M.), the Life Sciences (Prof. Dénes Dudits, F.M.) for the the Social Sciences (Prof. Miklós Maróth, F.M.). General Secretary and Deputy General Secretary are, respectively, Prof. Tamás Németh, F.M., and Prof. Valéria Csépe, C.M.

The public duties of the Academy (according to the above Act, simplified text)

- a) to support the cultivation of sciences, scientific research, and the publication of scientific books and journals;
- b) to maintain, regulate, and efficiently operate a professional research network funded by the Government for the cultivation of scientific research;
- c) to operate a system of scientific qualification according to well-defined rules and regulations;
- d) to evaluate regularly the results and trends of scientific research at home and abroad, and also to formulate relevant proposals,
- e) when asked by Parliament or Government, to formulate its professional judgment on issues within its competence, i.e. issues mainly of science, education, the environment, and the economy.
- f) to promote the development of the Hungarian language by enhancing the cultivation of science and scholarship in Hungarian;
- g) to safeguard high standards of public morale in the world of science and the freedom of scientific research and opinion;
- h) to maintain relations and conclude agreements with scientific institutions and organisations of other countries, especially academies, institutions of higher learning, and scientific organisations of the EU;
- i) to maintain relations with scholars and scientists living abroad but working in fields related to Hungary or the Hungarian language, and to support Hungarian science and scholarship beyond Hungary's frontiers;
- j) to organise scientific programs and conferences, and to conduct competitions;

- k)* to promote and assist the social and economic application of the results of scientific research;
- l)* to maintain scientific research units in universities and libraries or museums by special agreement that may also involve the Academy's participation in undergraduate or doctoral education;
- m)* to enhance the reinforcement of the research community the Academy operates a system of grants and may endow prizes for researchers of outstanding promise and provide junior research posts for young researchers;
- n)* to establish scientific sections that are the basic units of scientific professional autonomy, units that can form other bodies (e.g. scientific committees, regional committees, etc.).

The principles of HAS's strategic development are the following:

- HAS is an organization promoting scientific excellence;
- by promoting the values of „Frontier Research”, it contributes to knowledge-based competitiveness within the EU through its own research network;
- it strives to preserve cultural values, and enhance national identity in an European spirit;
- it contributes to the growth of the innovative capacities of small and medium-sized Hungarian companies, and contributes to the modernization of the Hungarian economy.

The operation of the Academy is financed by the budget, the income derived from its assets and by foundations and donations.

### *Membership*

HAS's membership is comprised of full, corresponding, external, and honorary members. Out of a pool of the best scholars and scientists with a doctoral degree, members of HAS elect new ordinary, corresponding, external, and honorary members every three years. At no time may HAS's total membership exceed 365. The selection process is wholly public, the entire scientific community can survey the achievements of those nominated for membership.

Only citizens of the Hungarian Republic can be elected to become corresponding and full members of HAS. At any one time, the number of HAS's corresponding and full members under the age of 70 must not exceed 200.

Doctors of HAS, or persons holding an equivalent degree who pursue their field of science on a particularly high and creative level recognised by their field of science, can be elected to become corresponding members.

Corresponding members can be elected to become full members only if they have produced significant scientific achievements since they became corresponding members.

All domestic members of HAS belong to a certain scientific section and a certain scientific committee of that particular scientific section.

Citizens of foreign countries can be elected to become external or honorary members of HAS.

HAS's pool of external members draws on foreign scholars and scientists of Hungarian extraction, while honorary membership can be given to other, non-Hungarian scholars and scientists living abroad. External and honorary members are elected by their colleagues who are full or corresponding members of HAS.

The number of full HAS members is standing at 265 at present with an additional 76 corresponding members. The number of external members is 170 and that of the honorary members is 210 (September, 2009).

### *Doctors of HAS*

The degree „Doctor of HAS” can be granted by HAS's Doctoral Council on a competitive basis. An important stage in the process is the public defence of doctoral dissertations. Doctors of the Academy number appr. 3 000 at the present time.

### *HAS's Public Body*

Any person with a scientific degree can join HAS's public body on a voluntary basis. At the present time HAS boasts a public body numbering well over 12 000 persons. Well over one half of HAS's public body is employed by institutions of higher learning such as universities (48%), colleges (4%). The rest are employed by HAS's research institutes (12%), or other employers (36%).

### *Scientific Sections*

Scientific sections comprise representatives of one or several related fields of science or scholarship. Each member of the Academy belongs to one of the scientific sections.

The Academy has eleven scientific sections:

- I. Linguistics and Literary Studies
- II. Philosophy and Historical Studies
- III. Mathematical Sciences
- IV. Agricultural Sciences
- V. Medical Sciences
- VI. Technical Sciences
- VII. Chemical Sciences
- VIII. Biological Sciences
- IX. Economics and Law
- X. Earth Sciences
- XI. Physical Sciences

Scientific sections shall perform the duties arising from the Academy's public duties with regard to the section's particular fields of science. They shall also evaluate the professional reports submitted to the Academy by research units active in the sections' particular fields of science.

## **Research units at the Hungarian Academy of Sciences and other research teams**

The research network of the Hungarian Academy of Sciences (HAS) has two basic types of research units: the Academy maintains research institutes and supports research groups affiliated with universities or other institutions.

The research personnel make up one-sixth of all researchers working in Hungary, but contribute to Hungarian R&D by an output (publications, citations, participation in international projects etc.) with a total over 7000 scientific publications in 2008) of more than a third of the national total.

### *Research Institutes*

The Hungarian Academy of Sciences has 17 institutes for social sciences and humanities and 28 institutes for life, mathematics and natural sciences. Some topically linked institutes are as organised into research centres (e.g. in the field of biology or chemistry). The research institutes or centres have legal entity. The research institutes are active in almost all fields of life, mathematics and natural sciences, social sciences and humanities. The number of staff is about 4500 including nearly 2500 researchers.

### *Research Institutes of the Hungarian Academy of Sciences*

#### **Institutes for natural sciences**

Agricultural Research Institute  
Astronomical Institute (Konkoly Observatory)  
Balaton Limnological Research Institute  
Biological Research Centre (BRC)  
BRC Institute of Biochemistry  
BRC Institute of Biophysics

BRC Institute of Enzymology  
BRC Institute of Genetics  
BRC Institute of Plant Biology  
Chemical Research Centre (CRC)  
CRC Institute of Biomolecular Chemistry  
CRC Institute of Structural Chemistry  
CRC Institute of Nanochemistry and Catalysis  
CRC Institute of Materials and Environmental Chemistry  
Computer and Automation Research Institute  
Institute of Ecology and Botany  
Institute of Experimental Medicine  
Institute of Nuclear Research  
KFKI Atomic Energy Research Institute  
KFKI Research Institute for Particle and Nuclear Physics  
Plant Protection Institute  
"Rényi Alfréd" Mathematical Institute  
Research Centre for Earth Sciences (RCES)  
RCES Geodetical and Geophysical Research Institute  
RCES Geographical Research Institute  
RCES Laboratory for Geochemical Research  
Research Institute for Soil Science and Agricultural Chemistry  
Research Institute for Solid-state Physics and Optics  
Research Institute for Technical Physics and Material Science  
Veterinary Medical Research Institute

**Institutes for social sciences and the humanities**

Archaeological Institute  
Centre for Regional Studies (CRS)  
CRS West-Hungarian Research Institute  
CRS Transdanubian Research Institute  
CRS Great Plain Research Institute  
CRS Central and North Hungarian Research Institute  
Institute for the Study of Ethnic-National Minorities  
Institute of Art History  
Institute of Economics  
Institute of Ethnology  
Institute of History  
Institute of Legal Studies  
Institute of Literary Scholarship  
Institute for Musicology  
Institute of Philosophy  
Institute for Political Sciences  
Institute for Psychology  
Institute of Sociology  
Institute for World Economics  
Research Centre for the Social Sciences  
Research Institute for Linguistics

The home pages of the individual research institutes (in Hungarian and in English) can be reached from the home page of the academy at the following link:

<http://www.mta.hu/index.php?id=676>

### *Management system of research institutes*

The activities of the research institutes are directed by the Council of the Academy's Research Units (CARU) presided by the HAS's General Secretary. The Council of the Academy's Research Units operates three boards of curators (according to the three major fields of science (mathematics and natural sciences, life sciences, and social sciences and humanities)).

These three boards determine subsidies and investments for all research units to operate after evaluating their activities in close co-operation with HAS's scientific sections and their scientific committees.

The administrative aspects of the management of the institutes are handled by the Department for Research Institutes at HAS's Secretariat.

### *Academic research teams at universities and other institutions*

In the 1980's, the research institutes and universities worked out a system of co-operation for undertaking joint scientific work by the university chairs and the research institutes and enabling employees of the latter to teach at universities on a contract basis. HAS aims to develop close co-operation between the state-owned research centres and the state university faculties and also plans to increase the role of academic institutes in post-graduate training.

Traditionally, the Academy operates research teams at universities and other institutions. A number of research job positions are assigned to university chairs, while the university guarantees the facilities and other research conditions. A concentration of efforts was needed: until the end of 2006 171 research groups were operational, but since 1st of January 2007 only 79 new groups are supported, without a change in the total budget of academic funding. The new groups were chosen by a competitive process. (Project proposal with a research plan for five years, evaluated by peer review.)

The distribution of the groups according to scientific areas is as follows: mathematics and natural sciences (30); life sciences:( 25); social sciences: (24).

The number of staff in the research teams is 364 researchers. 66 % of them possess a scientific degree (PhD or DSc) (for a list of all research groups as well as their coordinates of accessibility, see: <http://www.mta.hu/index.php?id=710>)

The Academy has a contract with the hosting universities and other institutes of higher education, which governs the conditions of cooperation in detail (e. g. a maximum amount of teaching activity for the group members, in order to assure that the main accent is on research). The research groups participate both in the gradual- and post gradual education in the universities and they work in close cooperation with foreign research institutes, universities and scientific societies.

The administrative aspects of the management of these research teams are handled by Office for Research Groups Attached to Universities and Other Institutions of HAS.

## **Publications and research infrastructures**

The official bilingual website of HAS is: [www.mta.hu](http://www.mta.hu)

The Academy's journal is **Magyar Tudomány** (Hungarian Science). It was established in 1840, as a bulletin of the Hungarian Academy of Sciences. After 1956 it became a monthly journal under the title "Hungarian Science". It is designed to inform the scientific community about scientific findings and trends, and to raise important issues of science policy and scientific life for debate. Published in Hungarian ([www.matud.iif.hu](http://www.matud.iif.hu)).

**Akadémiai Értesítő** (Academy Register), published by the Department of Law and Administration 8-10 times per year, is the official bulletin of decrees, transitions,: publishes pieces of legislation, decisions,

resolutions, competitions, vacancy advertisements etc. concerning the functioning and administration of HAS and its bodies.

**Research Institutions and their activities** (published in English, updated regularly) and Results of the Research Institutions of HAS (published yearly in 3 volumes in Hungarian).

45 **scientific journals**, mostly in English, are published two to six times per year by Akadémiai Kiadó, a publishing company partly owned by HAS. For a list of journals published in Hungarian, see: <http://www.mta.hu/index.php?id=527>), whereas the English language titles are as follows:

[Across Languages and Cultures](#)

[Acta Agronomica Hungarica](#)

[Acta Alimentaria](#)

[Acta Antiqua](#)

[Acta Archaeologica](#)

[Acta Biologica Hungarica](#)

[Acta Botanica Hungarica](#)

[Acta Ethnographica Hungarica](#)

[Acta Geodaetica et Geophysica Hungarica](#)

[Acta Geologica Hungarica](#)

[Acta Historiae Artium](#)

[Acta Juridica Hungarica](#)

[Acta Linguistica Hungarica](#)

[Acta Mathematica Hungarica](#)

[Acta Microbiologica et Immunologica Hungarica](#)

[Acta Oeconomica](#)

[Acta Orientalia](#)

[Acta Physica Hungarica A\) Heavy Ion Physics](#)

[Acta Physica Hungarica B\) Quantum Electronics](#)

[Acta Physiologica Hungarica](#)

[Acta Phytopathologica et Entomologica Hungarica](#)

[Acta Veterinaria Hungarica](#)

[Analysis Mathematica](#)

[Community Ecology](#)

[Hungarian Studies](#)

[Journal of Cultural and Evolutionary Psychology](#)

[Journal of Radioanalytical and Nuclear Chemistry](#)

[Journal of Thermal Analysis and Calorimetry](#)

[Neohelicon](#)

[Neurobiology](#) (published until 2001)

[Periodica Mathematica Hungarica](#)

[Progress in Agricultural Engineering Sciences](#)

[Reaction Kinetics and Catalysis Letters](#)

[Review of Sociology](#)

[Scientometrics](#)

[Selection](#) (published until 2002.)

[Society and Economy](#)

[Studia Musicologica](#)

[Studia Scientiarum Mathematicarum Hungarica](#)

[Studia Slavica](#)

[Verbum](#)

## *Research Infrastructures*

The **Library of the Hungarian Academy of Sciences** is dedicated to support scientific and scholarly research and preserves its precious collection for future generations. It serves the public by providing its holdings to an ever widening circle of users preserving its traditional values and at the same time applying new developments in Information technology. It has been a national research library for more than 180 years.

Partly due to the fact that the Library had the right to develop its collection through legal deposit from 1836 till 1998; and partly as a leading organization in international exchange programmes it has a precious unique collection of more than 2.2 million items.

The special collections, such as the Oriental Collection and the Rare Books and Manuscript Collection have international reputation and are acknowledged by researchers world wide.

The **Art Collection** contains portraits, landscapes, historical genre paintings, archaeological drawings, as well as fine and applied art objects, and the Goethe Collection.

## *Institute for Research Organisation*

The Institute was established in 1968 as a special background institution of the Hungarian Academy of Sciences. The staff is responsible both for scientific and administrative activities related to the science policy profile of HAS. Science and innovation policy studies have been made for more than four decades. Accumulated knowledge and expertise in statistics, financing, institutional systems and transformation policies in Hungary and other Central- and Eastern European countries are utilized mainly by the HAS administration, but also by many domestic and foreign organizations (scientific establishments, ministries, offices of statistics, foundations, etc.). Databases of the Institute are of great significance for science administrators and researchers as well. Just to mention a few of the most popular ones: database of scientists as members of the public-law association of HAS; database of research units all over the country; database of foundations related to research and higher education.

### **Science and society:**

As decreed by Hungary's Parliament, the birthday of Count István Széchenyi, who had done a great deal for the establishment of HAS, now marks the day of a **Hungarian Science Festival**. Around this day every year since 1998 HAS has organized an increasingly varied series of events arousing all universities, colleges, many secondary schools, libraries, culture centres of the country. It is at these events that Hungarian scholars and scientists can inform the general public in easy-to-grasp language about their respective research findings.

In 2002, HAS had started a series of TV-lectures, complete with a popular science programme on the Internet, that has been nominated for the EU's Descartes Prize. By founding **ENCOMPASS**, HAS aimed at the easy-to-grasp presentation of even the most complicated scientific knowledge as well as at making Hungarian scholars and scientists better known among the general public. For six years, those interested in science could make the acquaintance of some of the most outstanding Hungarian scholars and scientists. On average, a weekly total of 250–300.000 Hungarians have widened their knowledge by watching the TV series comprising 175 lectures and/or by attending the accompanying 46 club events.

## International relations and activities

HAS is party to a great number of international scientific organizations. Along with co-operation in scientific and science-policy matters, it also strives to enhance Hungary's international relations by way of science diplomacy initiatives and follow-up actions. They include:

International Council of Scientific Unions (ICSU)(since 1931), Union Academique Internationale (UAI)(since 1933); European Science Foundation (ESF, since 1991); European Molecular Biology Conference (EMBC) and the International Social Science Council (ISSC; since 1999).

HAS was a founding member of All European Academies (ALLEA) and is affiliated with the European Synchrotron Research Facility (ESRF) since 2000 by special agreement.

HAS is also a member of the Federation European Medical Academies (FEAM), of the Inter Academy Panel on International Issues, the InterAcademy Council and of the European Academies Science Advisory Council.

Initiated by HAS, the bi-annual series of **World Science Forum – Budapest** was set up in conjunction with UNESCO, the EU Commission, and ICSU in 2003. Brought together with the aim of entering into a dialogue concerning the most topical issues of society and science, truly global gatherings of scientists, science policy makers, economic experts, journalists, politicians, and young people try to work out solutions every other year. The themes of the three Fora so far (Knowledge and Society; Knowledge, ethics and responsibility; Investing in knowledge: investing in the future) have yielded stands and recommendations that have since become parts of the operation of national and international institutions. The theme of the 2009 event is: Knowledge and Future.

HAS operates **HunASCO** (Hungarian Academy of Sciences Contact Office to the EU) in Brussels. It has participated in the meetings of the informal network of national R+D offices based in Brussels as well as participating in the work of IGLO working groups active in various fields of science policy.

In 2007, HAS took an active part in establishing the centre of an **European Institute of Innovation and Technology** (EIT). For its part, HAS attributes to the centre the main jobs of renewing EU science policy and enhancing innovation in European economies.

Within the framework of a general political co-operation of the so-called **Visegrad Four**, heads of the region's academies of science. have regularly conducted informal meetings since 1999.

HAS maintains extensive ties to academies of science in more than 70 of foreign countries. Most of those ties have yielded valuable results in joint conferences, committees, an exchange of researchers, and a co-ordinated advancement of Hungary's co-operation with many foreign countries.

### *Hungarians abroad*

HAS being an academy representing the nation, its activities extend over borders. Thus, HAS's network of regional committees includes one based in Kolozsvár (Cluj), Transylvania (Romania), an outlet involving researchers active in the most numerous Hungarian community outside Hungary's borders. HAS awards special grants in order to promote the work done by Hungarian scholars and scientists active abroad.