

# Annual report of the Finnish Academy of Science and Letters for 2009

*Olli Martio*

The year 2009 was the 102nd in the history of the Finnish Academy of Science and Letters. The latter part of the year was coloured to a great extent by the major changes taking place in the administration of Finland's institutions of higher education. The Academy is a community in which all the country's universities are represented by members who have demonstrated their prowess in their own particular field, and such changes naturally allow it to adopt a role in which its own expertise can be made available in new ways across the borders between universities. The pressures on the universities are not likely to end with the completion of the administrative reform, however, and the extent to which the Academy's long-term experience can be utilized once attention is turned to research and the prerequisites for its success will depend very much on the attitudes of its members.

One new form of Academy activity introduced in 2009 was the Academy Club for Young Scientists, on the model of similar organizations set up by academies in other countries. Its aim is to improve the visibility of scientific and academic research by giving young researchers opportunities to discuss problems of topical interest in their studies and air their views on these. The opinions and criticism that young scien-

tists have regarding their work do not normally receive the attention they deserve, and one idea behind the Academy Club is to train young people to respond to this challenge. The Academy's governing board selected 18 young scientists upon recommendations from the subject groups, and these people met in the Väisälä Room on the Academy's premises four times in the course of the year. The papers presented and the discussions entered into have been posted on the Academy's web pages.

A further innovation in 2009 was the commencement of a series of publications under the title *Statements of Opinion from the Finnish Academy of Science and Letters*. Many academies in other countries have been producing publications of this kind for some time. The intention is to produce two volumes in 2010, on school shootings and on the uses of peat, each to be written by a working group selected by the governing board.

In other respects the Academy continued to hold its regular meetings with the presentation of papers in the traditional manner during 2009, to produce its publication series and to grant the customary scholarships and awards, the total value of which remained at the same level as in previous years in spite of the economic situation. The Vilho, Yrjö and Kalle Väisälä Foun-

dation, the Eino Jutikkala Fund and the Mathematics Fund continued to function under its auspices, the last-mentioned benefiting from a generous legacy granted to it by Prof. I. S. Louhivaara. The Academy was also responsible for administering the Emil Öhmann Foundation and the Hilikka and Otto Brusiin Foundation.

The Finnish Academy of Science and Letters is represented in numerous national and international scientific and academic organizations, in addition to which it has relations with academies in other countries and their collaborative organizations that are channelled through the Academies Section of the Federation of Finnish Learned Societies. Its true weight in academic matters is nevertheless to be appreciated best through its members, who are active in numerous positions of significance in terms of research policy in Finland and abroad.

#### Governing Board

The chairman of the Governing Board, Arto Mustajoki, continued in office in 2009, as did the vice-chairman, Sirpa Jalkanen, the secretary-general, Matti Saarnisto (until

31.7.), and the treasurer, Erkki Koskela. Erkki Hollo continued as secretary to the Section of the Humanities, Olavi Nevanlinna as secretary to the Section of Science and Heikki Palva (until 6.4.) as chairman of the Publishing Committee. Risto Nieminen, Tuija Pulkkinen (until 6.4.) and Raija-Leena Punamäki. continued as ordinary members. The Annual Meeting on 6th April elected Olli Martio to take over as secretary-general from 1.8. onwards and Eva-Mari Aro to serve as a new ordinary member on the board. The Governing Board held ten meetings in the course of the year.

#### Publications

Up until the Annual Meeting on 6th April the members of the Publishing Committee continued to be Heikki Palva, chief editor of the *Humaniora* series, as chairman, Olli Martio, chief editor of the two *Mathematica* series, as vice-chairman, and Anna-Leena Siikala, chief editor of *Folklore Fellows' Communications*, and Matti Saarnisto, secretary-general and editor of the *Geologica-Geographica* series, as members. The secretary to the Publishing Committee was Kaj Öhrnberg, Lic.Phil.

#### The Governing Board 2009

Member	Position	Term of office
Arto Mustajoki	chairman	2008–2010
Sirpa Jalkanen	vice-chairman	2008–2010
Matti Saarnisto	secretary-general	2004–31.7.2009
Olli Martio	secretary-general chairman, Publishing Committee	1.8.2009–2014 6.4.2009–2014
Erkki Koskela	treasurer	2009–2014
Erkki Hollo	secretary, Section of Humanities	2009–2014
Olavi Nevanlinna	secretary, Section of Science	2009–2014
Heikki Palva	chairman, Publishing Committee	2004–6.4.2009
Eva-Mari Aro	member	6.4.2009–2010
Tuija Pulkkinen	member	2008–6.4.2009
Risto Nieminen	member	6.4.2009–2010
Raija-Leena Punamäki	member	6.4.2009–2010

At the Annual Meeting Olli Martio, chief editor of the two *Mathematica* series and secretary-general as from 1.8., was appointed as chairman of the Publishing Committee, with Anna-Leena Siikala, chief editor of *Folklore Fellows' Communications*, as vice-chairman, and Jaakko Hämeen-Anttila, the new chief editor of the *Humaniora* series, and Matti Saarnisto, editor of the *Geologica-Geographica* series, as members. Since the long-serving secretary to the Publishing Committee, Kaj Öhrnberg, Lic.Phil., had taken up other duties in the spring, Dr. Mika Koskenoja, editorial secretary of the *Mathematica* series, and Dr. Petteri Koskikallio, editorial secretary of the *Humaniora* series, were elected to replace him.

The Academy continued to publish the *Annales Academiae Scientiarum Fennicae* and *Folklore Fellows' Communications* (FFC) series as in previous years. A total of 52 papers were published, amounting to 3108 pages, as follows:

- *Mathematica*, 41 papers, 649 pages
- *Mathematica Dissertationes*, 3 papers, 277 pages
- *Humaniora*, 5 papers, 1066 pages
- *FFC*, 3 papers, 1116 pages

Also published in the course of the year:

- *Vuosikirja – Year Book 2008*, 171 pages
- and two issues of the *FF Network* magazine, 52 pages

The Publications Committee met four times during the year. The joint publications committee of the Finnish Academy of Science and Letters and the Finnish Society of Sciences and Letters met once, on 19.11., when Olli Martio of the Academy was elected chairman and Prof. Leif Nordberg of the Society of Sciences and Letters vice-chairman.

The Academy received 130,000 euros in government assistance for its publishing

work, and incomes from the sale of publications amounted to 28,610.07 euros. Distribution of the Academy's publications on an exchange basis took place through the Exchange Centre for Scientific Literature run by the Federation of Finnish Learned Societies. The Academy had 615 overseas exchange partners at the end of 2009.

#### Staff and administration of assets

The Property Management Group which advises the Governing Board in financial matters consisted of the chairman, Arto Mustajoki, the vice-chairman, Sirpa Jalkanen, the treasurer, Erkki Koskela, and the secretary-general, Matti Saarnisto until 31st July and Olli Martio thereafter, together with Erkki Hollo and Risto Piepponen, LL.M., until 6th April and Antti Tanskanen thereafter. The group met on five occasions during the year: 12th January, 3rd February, 25th February, 19th May and 5th October. The Academy's funds have been invested on a long-term basis, chiefly in sound, Finnish listed companies. Its investment portfolios are in the hands of Pohjola Assets Management and the Nordea concern. These portfolios declined in value at the beginning of the year on account of the recession, but recovered towards the end along with the general easing of the economic situation.

The Academy owns properties belonging to the Vilho, Yrjö and Kalle Väisälä Foundation, the Eino Jutikkala Fund and the Mathematics Fund.

The Academy's office and the meeting room of its Governing Board are on the first floor at Mariankatu 5, in premises owned by the Väisälä Foundation, which, together with the Kordelin Foundation, the Finnish Literature Society and the Niilo Helander Foundation, also owns the Wuorio Building at Unioninkatu 30, which is at present

leased out on a long-term basis, mostly to Skandinaviska Enskilda Banken. The secretary-general, Olli Martio, has a seat on the board of the Unioninkatu 30 property Company (as from 1.8.).

The Väisälä Foundation also owns, together with the Emil Öhmann Foundation, some 550 m<sup>2</sup> of office space in a building erected in 2001 in the Ruoholahti district of Helsinki and administered by the housing company Asunto Oy Helsingin Bulevardin-aukio. The premises have been leased on a long-term basis to the Traffic Accidents Board. The Eino Jutikkala Fund owns an apartment of 72 m<sup>2</sup> in Eira, and the Mathematics Fund has come into the possession of two apartments in Töölö, of size 183 m<sup>2</sup> and 20.5 m<sup>2</sup>, under a legacy from a former Academy member, Ilppo Simo Louhivaara.

The Academy has attempted to increase its ownership of property, and is involved together with the Kordelin Foundation and the House of the Nobility in a project to build new archive space beneath the street in Hallituskatu, to be leased eventually to the Finnish Literature Society. The project has advanced very slowly, however, on account of the current economic crisis.

Helena Vanhala, MBA, chartered accountant, and Risto Tainio acted as auditors of the Academy's accounts and administrative procedures in 2009, with Veli Vanhanen, MBA, chartered accountant, and Pertti Haaparanta as their deputies.

The head of the Academy's office was Eija Jussila, with Minna Isoksela as office secretary and Nina Rapelo as part-time research assistant.

## Meetings

The Academy held its meetings in the traditional manner on the second Monday of

each month in the House of the Estates. Attendances were good, with an average of 100 persons present. No meeting was held in January or in May.

*9th February:*

*Networks and interactions*

- Prof. Kimmo Kaski: *Social networks: analysis and modelling*
- Prof. Kai Kaila: *Spontaneous activity in developing neural networks: mechanisms and their significance*
- Prof. J. P. Roos: *Interaction and mutual assistance between the sexes in Finland*

*9th March:*

*Between Heaven and Earth: research into the solar system*

- Prof. Tuija Pulkkinen: *Weather and storms in outer space*
- Prof. Kari Muinonen: *Small objects in space and the risk of collision*
- Prof. Esa Kallio: *Influence of the Sun on the planets and their moons*

*6th April:*

*Annual meeting*

- Prof. Heikki Ylikangas: *Historical research, academic and amateur*
- Prof. Maija Lehtonen was invited to honorary membership of the Academy, and the Academy Award for 2009 was presented to Prof. Heikki Ylikangas.
- Four doctoral thesis awards were made.

*14th September:*

*Welcoming of new members*

- Academy Prof. Uskali Mäki: *The irregular performance capacity of science*
- Academy Prof. Riitta Salmelin: *Language and the brain*
- Prof. Kimmo Rentola: *Problems in the history of intelligence*
- Presentation of membership diplomas

12th October:

*The language of science*

- Prof. Anna Mauranen: *The language of science as an object of research*
- Prof. Auli Hakulinen: *Language policy and Finnish science*
- Prof. Arto Mustajoki: *Why is the language of science so imprecise?*
- Presentation of scholarships from the Eino Jutikkala Fund and the Emil Öhmann Foundation

9th November:

*Human rights*

- Pekka Hallberg, President of the Supreme Administrative Court: *Trends in the ideal of a constitutionally governed state for the people - touring the world with a casual traveller*
- Tapio Lappi-Seppälä, Director, National Research Institute of Legal Policy: *Criminal law and the protection of fundamental rights*

14th December:

*Presentation of prizes and grants from the Väisälä Foundation*

- Presentation of the Väisälä Prizes
- Prof. Kaisa Miettinen: *Why is compromise better than optimization? New multiobjective optimization methods for decision-making.*
- Prof. Adam Foster: *Surfaces and interfaces at the nanoscale*
- Presentation of grants awarded by the Väisälä Foundation

## Membership

The Annual Meeting on 6th April elected 31 new Finnish members and 3 new foreign members. The new members elected to the Section of Science were Professors Tero Harju (University of Turku), Heikki Hentto-

nen (Forestry Research Institute), Elina Ikonen (University of Helsinki), Jaakko Kaprio (University of Helsinki), Tero Kilpeläinen (University of Jyväskylä), Jussi Kukkonen (University of Joensuu), Veli-Matti Kähäri (University of Turku), Jukka Maalampi (University of Jyväskylä), Johanna Mappes (University of Jyväskylä), Seppo Meri (University of Helsinki), Markku Poutanen (Geodetic Institute), Craig Primmer (University of Turku), Mikko Ritala (University of Helsinki), Kari Rummukainen (University of Helsinki), Riitta Salmelin (Helsinki University of Technology), Mika Scheinin (University of Turku), Petteri Taalas (Meteorological Institute) and Mauri Valtonen (University of Turku). The one new foreign member was Professor Sergei Zilitinkevich (Meteorological Institute).

The new members elected to the Section of the Humanities were Professors Pekka Hakamies (University of Turku), Heikki Hämäläinen (University of Turku), Klaus Karttunen (University of Helsinki), Tapio Lappi-Seppälä (National Research Institute of Legal Policy), Anna Mauranen (University of Helsinki), Martti Nissinen (University of Helsinki), Marjatta Palander (University of Joensuu), Markku Peltonen (University of Helsinki), Kimmo Rentola (University of Turku), Liisa Tiittula (University of Tampere), Uskali Mäki (University of Helsinki) and Timo Vihavainen (University of Helsinki), and Docent Ildikó Lehtinen (National Board of Antiquities). The new foreign members to be elected were Professors Angelos Chaniotis (All Souls College, Oxford) and Donald G. Saari (University of California, Irvine).

The Academy mourned the deaths of the following Finnish members in the course of the year: Nils Erik Enkvist, Jouko Halila, Olli Halkka, Kaarlo Hartiala, Voitto Helander, Maunu Härme, Aarni Nyberg, Veikko Okko,

Mauri Palomäki and Lauri Seppänen. News was also received of the deaths of the following foreign members: Gábor Bernáth, Henri Cartan, Juha Heinonen, Torsten Husén, Hans-Heinrich Jescheck, Neil MacCormick, Setumi Miyamura, Edgar Reich, Leo Sario, Armen Takhtadzhyan, Carl Olof Sebastian Tamm and Edward Walaszek.

The Academy had 628 Finnish members and 195 foreign members at the end of the year.

It was decided at the Annual Meeting to change the name of the Medical Group to the Medical Sciences Group and to increase its membership quota by five. This now means that the quota for the Section of Science stands at 194 and that for the Section of the Humanities remains at 139.

#### Grants and prizes

**The Finnish Academy of Science and Letters Award for 2009**, a sum of 15,000 euros, was presented to Heikki Ylikangas in recognition of his significant achievements in historical research.

About 1.2 million euros was awarded in grants, prizes and expenses by the **Vilho, Yrjö and Kalle Väisälä Foundation**, which is one of the largest distributors of awards in Finland in its own fields of interest: mathematics, physics, astronomy, geophysics and meteorology. A total of 338 applications were received, representing an overall sum of about 5.8 million euros. The proposals were of a high standard, and it was possible to make awards to 82 applicants, about a fourth of the total. These included post-graduate research grants, mostly of 21,000 euros each, made to 44 persons for full-time work over a period of one year leading to the production of a doctoral thesis, amounting altogether to over 900,000 euros. Personal scholarships, post-doctoral grants and funding for the inviting of visit-

ing researchers to Finland were awarded to a total of over 200,000 euros. The grants and awards went to 10 universities and research institutes in Finland, and the recipients included ten persons carrying out their research abroad.

For the tenth time, the Academy awarded its **Väisälä Prizes** to distinguished researchers in the fields supported by the Väisälä Foundation who are still at an active stage in their career. This time the Governing Board decided to award two such prizes, of 15,000 euros each, to

- Kaisa Miettinen, professor of mathematics, University of Jyväskylä, and
- Adam Foster, professor of physics, Tampere University of Technology.

The **Eino Jutikkala Fund** distributed grants for research in the humanities for the second time, the 21 recipients receiving a total of 416,500 euros between them. These comprised 16 postgraduate students who each received 21,000 euros to enable full-time work for a year towards a doctoral thesis, one for half a year and four post-doctoral scholarships. These awards went altogether to five universities in Finland and to four scholars working in universities abroad. A total of 257 applications altogether were received in all the branches of study represented in the Academy's Section of the Humanities, amounting to an overall sum of around five million euros.

The scheme for ensuring pension rights for recipients of grants has now become law, so that they now come within the provisions of the statutory pensions and occupational accident insurance legislation. The necessary insurance arrangements have been made with the agricultural pensions office MELA. The insurance payments are included in the grants awarded, and the recipient then registers directly with the pensions office.

**Post-doctoral prizes** of 5,000 euros each were awarded to four outstanding young researchers who had submitted doctoral theses in the year 2008:

- Antti Kauppinen, D.Soc.Sc., University of Helsinki, moral and social philosophy,
- Teemu Koponen, D.Sc.(Tech.), Helsinki University of Technology, information technology,
- Anna Kotronen, B.Med., University of Helsinki, internal medicine,
- Laura Visapää, Ph.D., University of Helsinki, Finnish language.

The **Mathematics Fund** distributed grants to a total of almost 8,178 euros, mostly for the arranging of a conference of mathematicians in Finland.

#### The Academy Club for Young Scientists

The purpose of the Academy Club for Young Scientists, inaugurated in 2009 at the instigation of the chairman, Arto Mustajoki, is to improve the visibility of young researchers in Finnish academic circles. On recommendations from its subject groups, the Governing Board chose 18 talented young researchers in different fields as the first club members, one criterion for which was that they should have completed their doctorate within the last five years and should have continued their research successfully since then. Membership is valid for one academic year, from September to the following May.

The club met four times during the autumn term 2009, each time in the Academy's Väisälä Room. Video recordings were made of the meetings, and the discussions and papers can be accessed on the Academy's home pages: [www.acadsci.fi](http://www.acadsci.fi).

The following were elected as members of the Academy Club for Young Scientists for the academic year 2009–2010:

- Jan Hjort, Ph.D., University of Helsinki (geomorphology)
- Antti Honkela, docent, Helsinki University of Technology (bioinformatics)
- Markus Jokela, docent, University of Helsinki (developmental psychology, genetics, neurology)
- Anti Karttunen, Ph.D., University of Joensuu (surface chemistry)
- Emilia Kilpua, Ph.D., University of Helsinki (space physics)
- Leena Kolehmainen, Ph.D., University of Joensuu (Germanic philology)
- Mirjami Paso, LL.D., University of Joensuu (EU law)
- Tuukka Raij, D.Med.Sc., Helsinki University of Technology (brain research)
- Pajari Räsänen, Ph.D., University of Helsinki (literature)
- Janne Saarikivi, Ph.D., University of Helsinki (Finno-Ugric languages)
- Mikko Salo, docent, University of Helsinki (inversion problems)
- Mika Sillanpää, D.Sc.(Tech.), University of Helsinki ((low-temperature physics)
- Oula Silvennoinen, Ph.D., University of Helsinki (Finnish history)
- Anu Sironen, Agrifood Research Finland (MTT), (genetics)
- Janne Tukiainen, D.Soc.Sc., University of Helsinki (economics)
- Miia Turpeinen, docent, University of Oulu (pharmacology)
- Maija Turunen, University of Helsinki (church and social studies)
- Kristiina Vuori, Ph.D., University of Turku (animal physiology) International Activities

The Academy's international activities have been to a great extent channelled via the Delegation of Finnish Academies of Science and Letters, where it was represented by the chairman and Olavi Nevanlinna, the

latter acting as the section's chairman. The section had been created for the purpose of looking after contacts with academic organizations in other countries and paying international membership annual fees. The annual meeting between the Academies Section of the Federation of Finnish Learned Societies and the Academy of Finland took place on 20th January 2009.

The Academy concluded a cooperation agreement in the geosciences with the Russian Academy of Sciences on 15th April 2009. The signatories were the chairman, Arto Mustajoki, and the secretary-general, Matti Saarnisto, together with Academician N. P. Laverov, vice-president of the Russian Academy of Sciences. Matti Saarnisto was appointed to the coordinating group and later participated together with seven other members of the Academy in a meeting on "Climate Change and Environment" held at the State University of Moscow on 8th–9th June.

The Academy was represented by the chairman, Arto Mustajoki, and the secretary-general, Matti Saarnisto, at a workshop on "Best Practices in Advisory Roles and Fellowship Appointments" arranged by the Inter-Academy Panel on International Issues (IAP) in Trieste on 12th–13th February. The secretary-general, Matti Saarnisto, also visited Tallinn on 16th–17th April.

The Academy was represented on the board of Stiftelsen Nordisk Informationsbehandling – Tidskriften BIT's fond by Olavi Nevanlinna.

#### Other activities

The Academy's representatives on the board of the Federation of Finnish Learned Societies were Ilkka Niiniluoto and Matti Saarnisto (until 2nd March), followed by Olli Martio (from 2nd March onwards), with

Olavi Nevanlinna as deputy. Matti Saarnisto continued as deputy for Ilkka Niiniluoto. There were 251 societies operating in various fields affiliated to the Federation at the end of the year. The Academy was represented at the Federation's spring meeting on 30th March by Erkki Hollo and at the autumn meeting on 30th September by Olli Martio. Arto Mustajoki was the Academy's representative on the Science Forum organizing committee.

The Academy was represented on the governing board of the Alfred Kordelin Foundation by Markku Leskelä, with Juhani Päivänen as his deputy, and by Simo Knuutila, with Jouko Vahtola as his deputy, in the foundation's science section by Matti Saarnisto and Marjatta Hietala, with Marja Makarow and Erkki Hollo as their deputies, respectively, in the popular education section by Pertti Kansanen (until 7th November) and Kirsi Tirri (from 7th November onwards), with Kari Uusikylä (until 7th November) and Leena Syrjälä (from 7th November onwards) as their deputies, in the literature section by Hannu Riikonen, with Leila Haaparanta as his deputy, and in the arts section by Arto Haapala, with Prof. Pekka Korvenmaa as his deputy.

The Academy's representative on the board of the Sodankylä Observatory was Heikki Nevanlinna, with Risto Nieminen as his deputy. The representative on the board of the Helsinki University Museum Foundation was Juhani U. E. Lehtonen. Satu Apo and Annikki Kaivola-Bregenhøj represented the Academy on the governing board of the Kalevala Institute.

The chairman of the trustees of the Mathematics Foundation was Olli Martio and the other trustees Olli Lehto, Olavi Nevanlinna, Seppo Rickman and Arto Salomaa.

The following members served on Academy of Finland research councils in the

year 2009: Pertti Haapala and Eila Helander on the Council for Culture and Society, Helena Aksela, Jaakko Astola, Pertti Mattila, Erkki Oja and Tuija Pulkkinen on the Council for Natural Sciences and Engineering, Jorma Keski-Oja and Kalervo Väänänen on the Council for Health, and Jouni Häkli on the Council for the Biosciences and the Environment. Of these, Eila Helander, Erkki

Oja and Kalervo Väänänen acted in the capacity of chairman.

The library donated to the Academy by the late Eino Jutikkala, consisting mainly of works dealing with history and amounting to some 80 m of shelf space, was located in the Väisälä Room on the Academy's premises.