

Royal Netherlands Academy of Arts and Sciences

Annual report 2007

Part 1. KNAW in profile

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“As the forum, conscience and voice of the arts and sciences in the Netherlands, the Academy promotes the quality of scientific and scholarly work and strives to ensure that Dutch scholars and scientists make the best possible contribution to the cultural, social and economic development of Dutch society.”

Introduction

In its strategic plan for the period 2007 to 2010, the Royal Netherlands Academy of Arts and Sciences (KNAW) adopted as its central theme the sustainability of science. In the plan, entitled *Sustainable Science*, the Academy called for long-term investment in research and for better career opportunities, particularly for young scientists. The Academy itself intends to introduce a number of innovations designed to make the organisation more dynamic. Another priority is to consolidate the Academy's authoritative position within the research system. This first section of the annual report describes the steps taken by the Academy in 2007 to achieve these ambitions.

A new president in 2008

In October 2007, the Academy's president, Frits van Oostrom, Professor of Medieval Dutch Literature at the University of Utrecht, announced that the members had elected Robbert Dijkgraaf, Professor of Mathematical Physics at the University of Amsterdam, to succeed him in May 2008.

Important developments in 2007 with consequences for the years ahead

The Minister of Education, Culture and Science (OCW) commissioned an external evaluation of the Academy in 2007. The advisory report produced by the Gunning-Schepers Committee at the beginning of 2008 was positive. The Academy is pleased with the appreciation expressed by the committee and its encouragement to press ahead with our plans for modernisation. The Academy regards the committee's advice as an expression of support.

This support is belied, however, by the government's announcement in 2007 that funding will be cut by EUR 1.5 million in 2008, rising to EUR 5.4 million (or six percent of the government grant) in 2010. A cutback of this size will put at risk the process of innovation and modernisation that the Academy has set in motion. The Academy faces the difficult challenge of pursuing the course that has been approved with fewer resources in the coming years.

Forum and advisory body

The Academy was founded by Royal Decree of Louis Napoleon in 1808 and celebrates its bicentenary in 2008. As a forum with 220 members selected on the basis of scientific and scholarly excellence, the Academy serves as an independent advisory body on scientific and scholarly matters. The society has two divisions, the Science division and the Humanities and Social Sciences division, which together embrace the entire spectrum of scientific and scholarly disciplines.

The Academy as a reflection of the entire field of research

The Academy strives to maintain and expand its authoritative position in the research community by selecting its members on the basis of scientific and scholarly merit and from every discipline, including relatively new multidisciplinary and/or interdisciplinary fields. It is important for its authority that the society properly reflects the full range of scientific and scholarly disciplines.

This is why it was decided to increase the number of members from 200 to 220 in 2004. Fifteen of the twenty additional places are reserved for members in relatively new multidisciplinary and/or interdisciplinary areas of science and scholarship and for young and/or female researchers, the “discretionary places”. The additional places will be filled gradually over the coming years.

Nine new members were elected to the Academy in 2007, three of them to discretionary places. At the end of 2007, the Academy launched an extensive review to identify disciplines that are under-represented in the society with a view to allocating places to them in the coming years.

New Academy members in 2007

- Ms J.M. Bensing, Professor of Clinical and Health Psychology (discretionary place)
- R. Bernards, Professor of Molecular Carcinogenesis (discretionary place)
- H.R. Butcher, Professor of Observational Techniques in Astronomy
- R. Coehoorn, Professor of Physics and the Application of Nanostructures
- G.B.M. Engbersen, Professor of General Sociology
- M. Kalmijn, Professor of Sociology
- H.L.G.J. Merckelbach, Professor of Clinical Psychological Science
- Ms B. Meyer, Professor of Cultural Anthropology
- R. Rabbinge, Professor of Sustainable Development and Food Security (discretionary place)

Attracting talent: The Young Academy

The Young Academy (DJA) was founded in 2004 to bolster efforts to modernise and rejuvenate the society. The primary objectives of The Young Academy are:

- to give young scientists the opportunity to interact with research fields outside their own area of specialisation and open up avenues of interdisciplinary research;
- to encourage them to develop their outlook on the future of their own and related disciplines, as well as on research policy;
- to encourage them to use their insights for the benefit of society; and
- to support them in their development as scientists.

By 2007, The Young Academy had grown into a society comprised of sixty excellent young scientists who play an active role in scientific and scholarly advisory bodies inside and outside the Academy, including the Academy's own advisory councils and the Innovation Platform. To sustain the vitality of The Young Academy, membership is limited to a maximum of five years and members may not sit on the board for longer than two years. In 2007, The Young Academy was chaired by Janneke Gerards, Professor of Constitutional and Administrative Law at the University of Leiden.

Another of the objectives of The Young Academy is to generate wider public interest in science and scholarship, especially among young people. Its initiatives in this regard include projects such as *De Jongste Akademie.nl*, a website targeted at primary schools, and the science bus (*DJA on wheels*). The Young Academy is also an active participant in the debate about various aspects of research policy, such as career policy and the funding of research.

The Academy as the forum for debate

The Academy has traditionally provided members with a forum for inspiring discussions with colleagues about research and society (the “forum function”). For today's research community, the Academy's role as a forum for debate is in danger of being submerged by the worldwide explosion in the number of conferences, specialist meetings and Internet news groups. There is certainly no longer any need to travel to the Trippenhuis Building every month to meet professional colleagues. It is therefore time to reinvigorate the Academy's forum function in a contemporary fashion. Since its establishment in 2006, the Forum Function Committee has formulated proposals for strengthening and enlivening the forum function. An experiment in June 2007 with debates on a number of topical themes was a great success. Furthermore, the anniversary of the foundation of the Academy was celebrated for the first time on 8 May at an event attended by the members of the Academy and The Young Academy.

Among the most interesting meetings held in 2007 were:

- On 21 May the Academy's president gave his annual address to the General Meeting of Members. In his lecture, entitled “Markt en ziel” [*Market and Soul*], Van Oostrom criticised the excessive influence of market forces on research and called on scientists to show new confidence and convey their unique qualities.
- To mark the 300th anniversary of the birth of Carolus Linnaeus, the Academy, in association with the Swedish embassy and the Linnean Society of London, organised an international symposium in London on 1 and 2 October on the past, present and future of research into biodiversity on our planet.
- Two meetings were held on 14 May and 26 November to discuss topical themes from a scientific perspective. The subjects were “The future of the Dutch landscape” and “Uncertainties and climate change”.
- On 17 October, the Netherlands Organisation for Scientific Research (NWO), the Netherlands Organisation for Applied Scientific Research (TNO), the employers' organisation VNO/NCW, the Association of Universities in the Netherlands (VSNU) and the Academy organised a symposium on the subject of “brain gain” entitled “The Netherlands: A sanctuary for talent” [*NL: Pleisterplaats voor talent*]. The organisations suggested five ways to make the Netherlands more attractive for talented scientists.

The Academy also funds its own colloquia, at which groups of up to fifty scientists from the Netherlands and abroad meet to discuss a topical research issue. Six

colloquia were organised in 2007. The Academy also donated EUR 340,000 in grants for international scientific conferences in the Netherlands in 2007.

Despite these new ways in which the Academy performs its forum function, the Trippenhuis Building in Amsterdam remains the principal rendezvous point for scientists in the Netherlands. The restoration and refurbishment of the Trippenhuis Building are therefore still priorities for the Academy's operations and promotion. The Government Buildings Agency gave instructions for the work to start in 2007. It has now been interrupted for the bicentenary celebrations and will resume in 2009.

Fostering excellence

As the guardian of scientific and scholarly excellence, the Academy is the ideal organisation to award prizes and other marks of recognition to outstanding scientists, through special programmes or otherwise.

The most prominent programme at the moment is the Academy Professors programme. The purpose of the programme is to relieve leading professors at Dutch universities who are approaching the end of their careers from their administrative and managerial obligations so that they can devote themselves full-time to innovative research and the training of researchers. By paying the Academy Professor's salary, the Academy allows the relevant university to release funds to appoint talented young research managers. Consequently, the programme promotes excellence and innovation in research in two ways.

Five Academy Professors were appointed in 2007:

- J.M. ten Cate, Professor of Experimental Preventive Dentistry
- H.W. Lenstra, Professor of Fundamental and Applied Mathematics
- P.C. Muysken, Professor of General Linguistics
- J. Oerlemans, Professor of Meteorology
- Ms D.S. Postma, Professor of the Pathophysiology of the Respiration

The Academy Professors programme was evaluated in 2007 by a committee chaired by P.J. van der Maas, Professor of Public Health. The findings will be published in 2008.

In 2007, the philosopher L.W. Nauta was appointed to one of the Academy's Muller chairs as Professor of Philosophy of the Middle Ages and the Renaissance.

New programmes

To involve talented university students more closely in science and scholarship, in June 2007 the Academy and the national association of students ISO submitted a proposal to Education Minister Ronald Plasterk for the introduction of the position of Academy Assistant. The Academy Assistants programme is intended to give talented students an opportunity to take part in a research project headed by an enthusiastic and inspiring university lecturer or professor. The Academy hopes the programme will prove to be a valuable addition to existing measures for academic education and career policy.

Another new programme is the Visiting Professorship Programme (VPP), under which leading international scientists can be invited to the Netherlands for a short period to share their expertise with a specific research project, discipline or group. The programme commences in 2008.

Private funds

Another way in which the society contributes to the promotion of scientific and scholarly excellence is by evaluating candidates for chairs endowed by testaments, legacies and donations. The Academy also manages a number of private funds for the promotion of research in the Netherlands and abroad. These funds are used to finance researchers or a chair, for prizes, to organise lectures or to provide scholarships.

Interesting the general public in science

The Academy is eager to involve a wider public than just its members and other scientists in scientific developments. Science is important in many respects for society's cultural, social, economic and technological development. Scientific discoveries have a growing impact on everyday life and broad public support is needed to sustain the research effort.

The communication about science has undergone a transition in recent years from providing information to involving the general public in science. Together with other organisations, the Academy tries to generate public enthusiasm for science, with special emphasis on schools with a view to convincing talented young people to take up a career as a researcher.

The Academy's 200th anniversary in 2008 represents the perfect opportunity to put science in the spotlight for a whole year. Under the motto "The magic of science", the Academy is planning a programme of events to highlight the fascination, the challenge and the adventure of science for everyone.

The activities started in November 2007 with the launch of the special anniversary website, www.knaw200.nl. In addition to a diary of the various lectures and other events in the bicentennial programme, the site also contains special Academy collections, inspiring guest columns and a video message from the Academy's president Frits van Oostrom.

The importance of promoting public access to knowledge has been acknowledged by both the Academy and the public broadcasting organisation Teleac/NOT. Consequently, on 21 June 2007 they formed an alliance to develop a range of cross-media products on science and technology. The tour of schools by members of The Young Academy (*DJA on wheels*) is another aspect of this publicity campaign, since it allows young people to meet researchers and see for themselves how challenging and exciting science is.

"What would the Academy advise?"

The Academy has an important advisory function. The Academy contributes to developments in science and scholarship and research policy with ad hoc advisory reports and long-term foresight studies. In its strategic plan for the period 2007 to 2010, the Academy stated that it wishes to reinforce its advisory and foresight role and also intends to keep closer track of the impact of its advice and studies. The Academy also feels there is a need to place its advice in a wider interdisciplinary context.

Measures taken to reinforce the advisory function

In 2007, the internal Advisory Function working group published a report entitled *Adviseren is vooruitzien [Advising is anticipating]*. The Academy's board adopted the working group's recommendations almost without reservation. In the proposed new advisory structure, the board will play a greater role in setting the agenda for the advisory reports and foresight studies produced by the Academy and

the number of advisory councils will be reduced from ten to five with effect from 1 January 2008 (for the humanities, the social sciences, the natural and technological sciences, the earth and life sciences and the medical sciences) in order to enhance transdisciplinary cooperation and increase efficiency.

Other important suggestions concerned the need to respond more promptly to current events and to improve external communication. Up to now, each council had its own agenda. In 2007, the Academy started to prepare a single, integrated advisory and foresight agenda for all of the advisory councils and in the second half of the year laid the groundwork for the smooth transition to the new advisory structure in 2008.

Foresight studies

Every year the Academy carries out a number of foresight studies, which are designed to shape the ideas and the debate on scientific developments in a particular discipline.

Three foresight studies were published in 2007. At the beginning of 2007, a committee chaired by D.G. Yntema, Professor of Mediterranean Archaeology, published a study entitled *De Toren van Pisa rechtgezet, over de toekomst van de Nederlandse archeologie* [Straightening the Leaning Tower of Pisa, the future of Dutch archaeology] on the shaky position of academic archaeology and the gap between it and commercial archaeology. The Academy followed up this study by establishing an Archaeology Platform with representatives from the worlds of academic and commercial archaeology, the NWO and the Ministry of Education, Culture and Science.

In June, the study *Duurzaamheid duurt het langst. Onderzoeksuitdagingen voor een duurzame energievoorziening* [Sustainability lasts longest. Research challenges for a sustainable energy supply] was presented to the Minister of Education, Culture and Science. This report reviews the various energy supply options, from nuclear energy to biomass, and presents clear choices on the research that the Netherlands should conduct into energy in the future. The minister asked J.H.W. de Wit, Professor of Corrosion Technology and Electrochemistry, to chair a committee to harmonise the existing proposals for energy research with a view to implementing the report's suggestions.

Finally, the report *Samenspel in samenhang. Onderwijs en onderzoek in communicatie, media en informatie* [Working together in harmony: education and research in communication, media and information] appeared in December. In this report, a committee chaired by Ms J.F.T.M. van Dijck, Professor of Television, Media and Culture, concluded that institutional fragmentation hampered cooperation between communication, media and information studies (CMI studies) at a time when technological and social developments make closer cooperation in research increasingly important. A CMI Studies Platform will be established to improve the coordination of the research and improve its external presentation.

The foresight studies on biomathematics and regenerative medicine are expected to be completed in 2008.

Advisory reports

The Academy's advisory reports can address scientific and scholarly issues but can just as easily be concerned with the career policy for researchers or the Netherlands' contribution to major international projects. The Academy provides advice – solicited or otherwise – to parliament, ministries, universities and research organisations, funding agencies and international organisations.

The following advisory reports appeared in 2007:

- *Onderzoeksmasters in de sociale wetenschappen; eerste ervaringen* [Research Masters in the Social Sciences: initial experiences]. The report showed that there is considerable diversity among research Masters in the social sciences. The recommendations of the Social Sciences Council were aimed at improving the match between research Masters and programmes.
- *Bodembeweging in Nederland* [Soil movement in the Netherlands]. This report contained advice about a method of consolidating and coordinating the various results of measurements and existing knowledge about soil movement in the Netherlands.
- *Gezondheidsonderzoek: het investeren waard* [Health Care: a worthy investment]. The main recommendation in this report was to increase investment in health research so that the Netherlands can continue to conduct health research of an excellent international standard.
- *Code of conduct for Biosecurity*. This code of conduct for researchers is intended to raise awareness of the potential risks of the abuse of knowledge in the life sciences.

The Academy and education

It is crucial for the future standard of research that an adequate stream of qualified students enters the universities every year. The Academy therefore provides advice about education. In his annual address in May 2007, the president made an appeal for far more inspiring and challenging education at universities, especially in Bachelor's programmes. In November 2007, the president gave the opening lecture at the National Education Congress with the provocative title *Van sjoelen naar skien* [From shuffleboard to skiing]. He called for an end to the compartmentalisation in the Dutch education system, where students have to choose a particular academic direction at a young age and find it almost impossible to change course later. Moreover, he argued, learning should no longer be the reserve of young people. Lifelong learning has not become sufficiently well established in the Netherlands.

Education is also an important topic in the work of the various advisory councils, for example in the recommendations of the Social Sciences Council concerning the research Master's in the social sciences. The Academy has developed a range of activities in recent years relating to specific curricula, including providing input for committees reviewing the modernisation of education in chemistry, biology, mathematics, physics and earth sciences. Several Academy members sat on the committee that drew up profiles for the Nature and Technology/Nature and Health secondary school curricula, which presented its final report to State Secretary for Education Marja van Bijsterveldt in 2007.

Safeguarding standards in science and scholarship

The Academy plays an important role in quality assurance and research evaluation, not only through its active involvement in assessing institutions and programmes but also by formulating ideas about quality assurance in science and scholarship. The Quality Assurance Committee chaired by P.C. van der Vliet, Emeritus Professor of Molecular Biology, observed in 2007 that quality assurance in the Netherlands has become complex and produced suggestions for radically simplifying the process. These proposals will be discussed in 2008 in the context of the debate about updating the Standard Evaluation Protocol (SEP), the procedure drawn up in 2003 for the evaluation of the research at Dutch universities and the institutes of the Academy and the NWO.

Together with the VSNU and NWO, the Academy has provided advice about the development of the SEP. The Academy hosts the Meta Evaluation Committee for Quality Assurance in Scientific Research (MEC), which was set up to monitor the effectiveness of the SEP.

The MEC published a report entitled *Trust, but verify* in 2007, in which it concluded that although the SEP was generally adequate it still had a number of reservations. One of the MEC's observations was that it is unclear what is actually done with the findings of the evaluation committees and that a serious inflation of ratings had occurred along the way. These comments will be taken into account in designing a new SEP.

The Academy has established the Research School Accreditation Committee (ECOS) to monitor the quality of Dutch research institutions by granting them accreditation for six years. In 2007, H.W. Lintsen, Professor of the History of Technology, succeeded J.A. Michon as the chairman of ECOS. The Academy also advises on the accreditation of research Master's programmes in association with the Netherlands-Flanders Accreditation Organisation (NVAO).

Together with the VSNU, NWO, Quality Assurance Netherlands Universities (QANU) and the HBO Council, the Academy is a member of ERiC, which is chaired by Henriette Maassen van den Brink, Professor of Empirical Labour Economics. ERiC stands for *Evaluating Research in Context* and its purpose is to develop methods of evaluating the quality of research in social terms. In November 2007, the Academy organised an international workshop on the development of methodologies for ERiC, reflecting the fact that a growing number of activities relating to quality assurance and evaluation take place at an international, and particularly a European level. The Academy will also play a leading role in the All European Academies (ALLEA) working group "Evaluating for science" and is also active in three forums of the European Science Foundation concerned with this subject.

The Academy also has a number of irregular activities relating to quality assurance and evaluation. In 2007, the Academy appointed a committee to carry out an evaluation of the Social and Cultural Planning Bureau (SCP) in the spring of 2008. The Academy also supplied the chairperson of the review committee for the evaluation of the Innovative Research Incentives Scheme (*Vernieuwingsimpuls*). Both of these examples testify to the authoritative and independent role played by the Academy.

International exchange of scientific and scholarly knowledge

In view of the substantial expansion of the KNAW's international activities in recent years, on the advice of the Committee for International Policy (CIP) administrative responsibility for international cooperation was delegated to the Academy's Secretary Rob Kaptein, Emeritus Professor of Chemistry, in 2007. The secretary of international affairs:

- represents the Academy at meetings of European and other international organisations of which the Academy is a member;
- is a member of the Academy's Committee for International Policy;
- is chairman of the Academy's China committee;
- represents the Academy on the Board and Executive Board of CO-REACH (the Co-ordination of Research between Europe and China network, which the Academy leads on behalf of the European Commission);
- and oversees international visits by delegations to and from the Academy.

Strategic cooperation

Practising science at the highest level implies active involvement by researchers and institutes in international networks and consortia. The Academy represents the Netherlands in various international network organisations.

The Academy is, for example, a member of the Executive Committee of the InterAcademy Panel on International Issues (IAP), a network of 92 academies of sciences worldwide. It was the IAP that produced guidelines for a code of conduct on Biosecurity, a Dutch version of which was published by the Academy in 2007. At the initiative of the Academy, the IAP will publish a statement on biofuels.

As a member of the European Academies Science Advisory Council (EASAC), a consortium of the national academies of the EU member states, in 2007 the Academy provided input for the EASAC report *Tackling antibacterial resistance in Europe* and helped to write a statement on the impact of the migration of infectious diseases in Europe. In 2007, the Academy's vice-president, Jos van der Meer, was appointed deputy chairman of EASAC.

The Academy hosts the secretariat of ALLEA, an organisation established in 1994. In 2007 the Academy provided input for ALLEA's response to the European Commission's Green Paper on the development of the European Research Area (ERA). In October 2007, the Academy hosted an ALLEA conference on regional cooperation between South-East European academies.

The Academy continued its collaboration with the Network of African Science Academies (NASAC) in 2007 and there are plans for a series of conferences for European and African scientists. At the request of the Ministry of Foreign Affairs' Directorate-General for International Cooperation, the Academy produced an advisory report on the role of academies of science in Africa in 2007.

Promotion of research

The Academy promotes research through numerous cooperation programmes, principally with China and Indonesia. The Academy also has exchange programmes with fellow academies in Australia, France, Hungary, India, Israel, Austria, Poland, Russia, Slovakia and the Czech Republic. Ten of the fourteen working visits arranged in 2007 were to the Netherlands.

CHINA

The cooperation with China is arranged primarily through the China Exchange Programme (CEP), which has been promoting collaboration in research between the Netherlands and China for more than 25 years. In 2007, the Academy approved ten applications from individual researchers wishing to visit China and 24 proposals for joint Chinese-Dutch research projects of mutual interest. Six applications for PhD programmes were also awarded under another Academy programme in 2007, and projects were selected for the next phase of the Strategic Scientific Alliances Programme, the aim of which is to create one or more permanent alliances with China. The Academy is also making plans for cooperation with China at European level. It is participating in the Sixth Framework Programme project CO-REACH (Co-ordination of Research between Europe and China), the ultimate aim of which is to establish one or more new joint research programmes between Europe and China. CO-REACH spent most of 2007 formulating priorities for new pilot programmes.

INDONESIA

The Scientific Programme Indonesia Netherlands (SPIN) is designed to promote and finance long-term cooperation between researchers and research consortia in Indonesia and the Netherlands. Four new priority programmes were launched under SPIN's auspices in 2007.

As part of the East Kalimantan Programme for Coastal Zone Research Netherlands-Indonesia, the Academy and two partners selected three Dutch-Indonesian research projects and a research cluster in 2007. At the joint initiative of the Academy and the Indonesian Academy, M.A. Yunita Winarto was installed as Academy Professor Indonesia (API) by the Gadjah Mada University in Yogyakarta in February 2007. Another collaborative venture with Indonesia is the Joint Working Committee on Indonesia (JWC), which decided to concentrate in 2007 on the theme of "Agriculture beyond Food" to draw attention to the scientific background of biofuels.

In Europe, the Academy joined the Seventh Framework Programme project SEA-EU-NET as a partner. The SEA-EU-NET consortium, consisting of seventeen partners from throughout Europe and South-East Asia, will formally commence its activities in 2008. The principal objective of the project is to integrate and reinforce the EU-ASEAN dialogue on science and technology.

Umbrella organisation for research institutes

The Academy is an umbrella organisation for seventeen institutes that carry out research and build collections in the humanities, social sciences and life sciences. Roughly 84 percent of the Academy's budget goes to the institutes, which employ almost 1,100 people. Every institute is headed by a director, who is generally a prominent researcher in one of the institute's disciplines. The Academy's board of management runs the umbrella organisation under the supervision of the general board.

The Academy's institutes have three central tasks:

1. to conduct scientific and scholarly research of a high standard;
2. to build, manage and disseminate unique collections;
3. to provide services for the research community and society.

The institutes are divided into two clusters, Humanities and Social Sciences (HSS) and Life Sciences (LS). The HSS institutes focus on history, social history, languages and culture. Some of them are dedicated to the language, culture and history of the Netherlands (Meertens Institute, Fryske Akademy and Huygens Institute), while the other institutes (Royal Institute of Linguistics and Anthropology (KITLV), Netherlands Institute for War Documentation (NIOD), International Institute for Social History (IISG) and Roosevelt Study Centre (RSC)) cover a wider international domain. The Netherlands Interdisciplinary Demographics Institute (NIDI) focuses more on the social sciences.

Data Archiving and Networked Services (DANS) provides facilities for storing and providing access to research data in the fields of the humanities and social sciences. The Virtual Knowledge Studio for the Humanities and Social Sciences (VKS) is the Academy's e-research programme. The VKS studies the implications of ICT for research and assists researchers who are experimenting with new forms of collaboration and research. The Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS) promotes research in the humanities and social sciences by providing facilities for in-depth research and reflection.

The Life Science institutes focus on biological (Fungal Biotechnology Centre, CBS), biomedical (Hubrecht Institute, Interuniversity Cardiology Institute of the Netherlands (ICIN), Netherlands Institute for Neurosciences (NIN)) and ecological sciences (Netherlands Institute of Ecology (NIOO)). At the end of 2007, a cooperation agreement was signed for the establishment of the Spinoza Centre for Brain Research.

The Rathenau Institute serves as a bridge between science and the public. The Wadden Academy was founded in 2007 and is expected to commence its activities in May 2008.

List of KNAW institutes

Academy institutes	Discipline	Staff (FTEs) ¹⁾	Actual income 2007 (1 x €1,000)	KNAW grant (%)	External funds for contract research (%)	Last external evaluation
HUMANITIES AND SOCIAL SCIENCES						
Data Archiving & Networked Services (DANS)	Data archiving	20.7	3,332	58.6	18.5	³⁾
Fryske Akademy ²⁾	The language, culture and history of Friesland	45.1	1,648			2002
Huygens Institute	History of literature and science	30.1	2,520	94.4	3.6	2007
International Institute for Social History (IISG)	Social and economic history	97.4	7,683	61.1	21.2	2003
Royal Institute of Linguistics and Anthropology (KITLV)	Language, culture and history of South-East Asia, the Pacific and the Caribbean	45.2	4,505	69.5	17.4	2005
Meertens Institute	Dutch language and culture	51.5	3,466	80.7	19.3	2006
Netherlands Institute for War Documentation (NIOD)	History of the Second World War	58.3	4,774	58.3	39.0	2003
Netherlands Interdisciplinary Demographics Institute (NIDI)	Demographics	43.8	4,788	45.1	52.9	³⁾
Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS)	Facilities for researchers	14.6	2,691	83.5	5.4	2000
Roosevelt Study Center (RSC) ²⁾	History and culture of the US and Dutch-American relations	9.0	441			2005
Virtual Knowledge Studio for the Humanities and Social Sciences (VKS)	E-research in Humanities and Social Sciences	9.4	1,215	78.9	19.8	³⁾
LIFE SCIENCES						
Fungal Biodiversity Centre (CBS)	Fungal research	47.6	4,633	65.6	15.2	2002
Hubrecht Institute	Research into developmental biology and stem cells	140.7	13,257	43.8	45.5	2002
Interuniversity Cardiology Institute of the Netherlands (ICIN)	Cardiovascular system	83.1	6,589	37.7	61.2	2005
Netherlands Institute for Ecology (NIOO)	Ecology and biodiversity	192.1	15,559	67.2	30.9	2006
Netherlands Institute for Neurosciences (NIN)	Neurosciences	140.9	14,468	67.8	26.0	2004
OTHER						
Rathenau Institute	Technology assessment and science system assessment	35.0	5,087	93.2	5.0	2006

1) 31 December 2007

2) Affiliated institutes, only KNAW grant is shown.

3) NIDI will be evaluated in 2008. DANS and VKS are relatively new and will be evaluated in 2010/2011.

Changes in directors in 2007

The directors of the institutes play a key role in the Academy and have an extensive mandate. They are appointed for five years and may be reappointed. The following appointments were made in 2007:

- W.H. van Gilst (Professor of Cardiovascular and Clinical Pharmacology) – reappointed as director of ICIN
- P. Kabat (Professor of Climatic Hydrology) – chairman of the Wadden Academy.
- P.R. Roelfsema (Professor of Neurobiology of Cognition and Behaviour) – director of the NIN
- Ms M.J. Schwegman (Professor of Women's Studies) – director of the NIOD
- E.E. van der Wall (Professor of Cardiology) – director of ICIN
- C.I. de Zeeuw (Professor of Neurosciences and Anatomy) – project director for the expansion of the NIN.

In 2007, R.H.A. Plasterk departed as director of the Hubrecht Institute following his acceptance of the post of Minister of Education, Culture and Science. J.C.H. Blom retired as director of the NIOD in 2007 and C.J.G. Wensing stood down as interim director of the NIN when the position was filled permanently. To our deep regret, ICIN's director C.A. Visser died in 2007.

Major developments in 2007

Foundation of the Wadden Academy

In 2007, the Academy approved the creation of the Wadden Academy, a new institute that will devote itself to research programmes covering every aspect of the Wadden region, from the ecology to its cultural history. The institute will commence its activities in the course of 2008. It will be financed entirely by the Wadden Fund and the province of Friesland.

The Wadden Academy's objectives are:

1. To identify cross-domain gaps in the knowledge required for the sustainable development of the Wadden area and to articulate relevant research questions.
2. To promote a coherent programme of national and international research.
3. To improve the supply of information and promote the exchange of knowledge between researchers, the government, the business community and civil society organisations.

Reorganisation of the Fryske Akademy

Preparations began in 2007 for the reorganisation of the commercial departments of the Fryske Akademy. It will dispose of a number of activities, including the bookshop, the publishing division and the conference centre *It Aljemint*. The restructuring will be carried out in the spring of 2008.

Reorganisation of NIDI

In 2007, the NIDI was reorganised to create the scope for renewal of its programme and to strengthen its financial position. The number of research departments was reduced from three to two. The principal new area of research is health economics, which will be conducted in the new Projections, Migration & Health department.

Digital History of Science Centre at the Huygens Institute

The Digital History of Science Centre (DWC) is an Academy initiative that was incorporated in the Huygens Institute in 2007. The DWC will serve as a virtual and interactive centre for the history of science and scholarship in the Netherlands and also provide access to the Academy's library. The DWC will be operational at the end of 2008 and subsequently expanded in 2009 and 2010. A sum of EUR 290,000 from the Academy's Strategy and Infrastructure Programme was earmarked for the centre's development in 2007. The Huygens Institute will also receive EUR 150,000 a year for the DWC from 2008 onwards.

Opening of Maastricht Virtual Knowledge Studio

In November 2007, J.M.M. Ritzen, the chairman of the board of the University of Maastricht, opened the Maastricht Studio, a joint venture between the university and the Academy. The VKS now has three branches: the main branch in Amsterdam, the Erasmus Studio at the Erasmus University in Rotterdam and the Maastricht Studio.

General policy towards the institutes

Funding

The Academy's aim is to create the organisational, infrastructural and financial conditions to facilitate excellence at the institutes. In the last few years the institutes have received a fixed lump sum from the Academy, without any flexible performance-related element. This was a conscious decision because long-term research benefits from stable regular funding.

Besides the basic grant, the institutes earn additional income of their own from contract research. Unlike many universities, the Academy does not charge for accommodation and overhead when external funding is secured. The success of the institutes in raising external funding for research is illustrated by the fact that income generated by contract research has more than doubled in just a few years.

Quality policy

An international peer committee reviews the direction and performance of the institutes every six years on the basis of the Standard Evaluation Protocol. There are also mid-term evaluations. In 2007, external evaluations were conducted at two Academy institutes.

– External evaluation of the Meertens Institute

The report of the evaluation committee led by P. Schnabel, which assessed the Meertens Institute in October 2006, appeared at the beginning of 2007. The committee described the Meertens Institute as a whole as *very good* and some aspects of the variations linguistics department as *excellent*. This finding was confirmed in part by the great many external grants it received. The committee further concluded that the institute is highly active and very successful at “valorising” the results of its research: researchers at the institute are frequent contributors to the public debate and figure prominently in the media.

– External evaluation of the Huygens Institute

In October 2007 the Huygens Institute was assessed by a Dutch-Flemish evaluation committee headed by H. Bertens. The evaluation will be published at the beginning of 2008.

An external evaluation was also carried out at the Centre for Holocaust and Genocide Studies (CHGS), in which the NIOD-KNAW collaborates with the University of Amsterdam. The committee chaired by C.J.M. Schuyt expressed its admiration for the CHGS' achievements in terms of research and education. It recommended further refinement of the programme of activities, particularly in terms of its coherence.

Important permanent advisory bodies for the directors of the institutes and the board of management of the Academy are the scientific committees. A scientific committee critically monitors the policy of an institute and provides a useful sounding board for the institute's director. The Academy recognises the great importance of these scientific committees and the director of Research and the chairpersons of the scientific committees meet at least once a year.

For the last few years the Academy has collected key data on each institute. These data are intended to provide relevant input for the six-monthly meetings of the central management and the managements of the institutes outside the evaluations and to compile the annual report. They are also used to monitor the developments at an institute in the longer term.

Strategic Fund

The Academy has a Strategic Fund of over two million euros a year for strategic innovations at the institutes. The directors of the institutes and the central board of management can make suggestions for investments from the Strategic Fund.

The following multi-year projects were approved in 2007:

- The collaboration between the Hubrecht Institute and the CBS in the project *Bioprospecting of fungal metabolites using zebrafish embryos*. In this project, research is being carried out to identify potentially undiscovered medicines in the CBS' unique collection.
- The collaboration between the NIDI, the IISG and the VKS in the project *Spanning past and present: Infrastructure for interdisciplinary research on 150 years of life courses and families*. A grant has been provisionally reserved for this project. Whether it will actually be awarded depends on whether it receives a grant from the NWO Large programme.
- The modernisation of the Dutch Bird Ringing Centre, which plays a crucial role in the bird study being carried out by the NIOO and other institutions in the Netherlands.
- The sociolinguistic symposium *Micro and Macro Connections*, which will be organised in Amsterdam by the Meertens Institute in April 2008.
- *Global Hubs for Global History*, a joint project of the IISG and the VKS.
- The development of the ICT infrastructure at the RSC to allow the institute to create a digital portal for American Studies.

Prizes and scholarships

- P.T.V.M. de Jong of the NIN, Professor of Epidemiology of Eye Diseases, won the Alcon Research Institute Award 2007.
- E.J.W. van Someren, work group leader at the NIN, received a VICI grant in 2007.
- E. Berezikov and L.J. de Windt of the Hubrecht Institute received a Vidi grant from the NWO.
- J.A. van Gils, a researcher at the NIOO, won the Dutch Zoology Prize.
- G.A. Kowalchuk, a senior researcher at the NIOO and extraordinary professor of Plant-Microbial Interactions at the Vrije Universiteit in Amsterdam, received a VICI grant.
- A.F.W. van der Steen, an ICIN professor, was awarded a Simon Stevin Master-ship by STW technology foundation.

Collaboration

All of the Academy's institutes are encouraged to form strategic partnerships with other institutes and universities. This is reflected in joint programmes and projects, the exchange of guest researchers and agreements to share facilities and doctoral payments. The extent of the collaboration is illustrated by the fact that 76 researchers at the Academy's institutes held professorships at Dutch universities in 2007, while several more researchers were appointed as professors in the course of the year. P.F. Wouters, programme manager at the Virtual Knowledge Studio (VKS), was appointed extraordinary Professor of Dynamics of Knowledge at Erasmus University in Rotterdam. Ms S. Wyatt, a senior researcher at the VKS, was named extraordinary Professor of Digital Cultures in Development at the University of Maastricht. M. van Oostendorp, leader of the Variation Linguistics research group at the Meertens Institute, was appointed extraordinary Professor of Phonological Microvariation at the University of Leiden. E. Cuppen, work

group leader at the Hubrecht Institute, was appointed Professor of Genome Biology at the University of Utrecht.

Spinoza Centre

On 18 December 2007, at the Academy's instigation, NIN-KNAW, the University of Amsterdam, the Vrije Universiteit in Amsterdam, the Academic Medical Centre, the Vrije Universiteit Medical Centre and the municipality of Amsterdam signed an agreement to establish the Spinoza Centre for Neuro-Imaging. The parties' intention is to raise the standard of brain research by creating a large facility with 3T and 7T fMRI scanners for advanced brain research. The ultimate aim is to establish an inter-city consortium in the field of neurosciences as a distinct element of a national division of tasks.

Expansion of the Hubrecht Institute

In 2007 the Academy started talks with the University Medical Centre Utrecht (UMCU) for a joint investment in research into developmental biology and stem cells. The aim of the partnership is to expand the staff and infrastructure of the Hubrecht Institute so that it can evolve further into a prestigious leading international institute.

Institute for the History, Language and Culture of the Netherlands

In 2007 exploratory talks took place on the prospect of setting up an Institute for the History, Language and Culture of the Netherlands. Discussions were held with scientists and prominent figures in society, including current and former politicians. It became clear that the overarching theme should be approached from an interdisciplinary and international comparative perspective. This and other findings will be considered in the discussions in 2008 on closer cooperation between the Academy's humanities institutes and their upscaling and modernisation.

Alfalab

The development of Alfalab is a reflection of that closer collaboration. A number of the Academy's humanities institutes (DANS, the Fryske Akademy, the Huygens Institute, the Meertens Institute and the VKS) joined forces to produce the plans for Alfalab, a project that will enhance access to, experimentation with and the dissemination of ICT tools and data in the humanities. Since external partners can also join this project, Alfalab can be seen as an effort by the Academy to stimulate humanities research in the Netherlands. The plans will be fleshed out in 2008.

Collections policy

A number of institutes have physical and/or digital collections and databases. The relevant institutes in the HSS cluster are the Meertens Institute, the Fryske Akademy, the Huygens Institute, the KITLV, the NIOD, the RSC and the IISG. The relevant LS institutes are the CBS, the NIN and the NIOO. DANS plays a national role in providing open access to data from publicly-funded research in the arts and social sciences.

Working group on Collections policy

The NIOO joined the Collections Policy working group in 2007. The working group was set up in 2006 to share knowledge and experience with a view to helping the institutes anticipate future developments in the field of digitisation. The

other members are representatives of DANS, the Fryske Akademy, the IISG, the KITLV, the Meertens Institute and the NIOD. The working group is preparing a joint programme for mass digitisation. During its meetings in 2007, the group shared information on topics such as open access, search engines, cataloguing systems, EPrints and digitisation projects.

Survey of digital preservation

The Netherlands Coalition for Digital Preservation (NCDD) was founded in May 2007 at the suggestion of DANS-KNAW and the National Library. The Academy, NWO, SURF, Statistics Netherlands, the Netherlands Institute for Image and Sound and the National Archive are members of the coalition. The NCDD will make an inventory of the types of digital information stored by the various Dutch agencies and how they store it. In anticipation of this, the Academy commenced a survey of the preservation of the digital material stored by its institutes at the end of 2007.

Animal testing policy at Academy institutes

The Academy holds a permit under the Animal Testing Act [*Wet op de Dierproeven*, WOD]. Three Academy institutes perform experiments on animals for the purpose of scientific research: the Hubrecht Institute, the NIN and the NIOO. The Academy's policy on research involving the use of animals centres on the three Rs: replacement, reduction and refinement. The number of animals used in experiments is kept to a minimum and the animals that are used are caused as little discomfort as possible by using animal-friendly research methods. An independent Animal Experiments Committee and two experts in animal testing (officials as referred to in Section 14 of the WOD) supervise the experimental research on animals in the three institutes.

The controversy surrounding animal testing has grown in recent years, partly due to the campaigning by the Party for the Animals (PvdD). Following a request made by virtue of the Government Information (Public Access) Act, the Academy invited the members of the PvdD's parliamentary party to a meeting in 2007 to discuss its animal testing policy. At this meeting they were told that animal testing is an essential element of biomedical and biological research projects at the Academy institutes. The purpose of the research projects is to acquire fundamental knowledge of biological processes and mechanisms, knowledge which also helps to solve health problems.

In response to the growing concern about experiments on animals, the Academy was involved in drafting a Disclosure Code for Animal Testing, which was written in association with the VSNU and the Netherlands Federation of University Medical Centres.

Members of the Academy also take part in the national debate about greater disclosure and publicity about animal testing through the Animal Trials and Biotechnology Committee.

Operational management

Personnel and organisation

Following the publication of the strategic plan, in June 2007 the directors of the institutes, the chairman of the Works Council and the spokespersons for the Local Consultation Committees were asked for their views on the human resources policy needed in the coming five to ten years. The following important topics emerged from these interviews: the prospects for doctoral students/post-docs, the creation of promotion opportunities in the institutes, more flexible deployment for permanent staff, investment in the managerial skills of research managers and the tension between personal research grants and the institute's research mission. These themes will be fleshed out in 2008.

There were three reorganisations in 2007. The Edit and publicity departments of the KNAW Bureau have been transformed into a single Communications department. There was a relatively minor reorganisation at the NIDI. Finally, preparations were made for a reorganisation at the Fryske Akademy to be carried out in 2008.

The job profiles of "Institute Director KNAW" and "Head of research group KNAW", which were drafted specifically for the Academy, were approved and the function groups were classified in accordance with the system of University Job Categories (UFO). Consequently, the introduction of the UFO system following the transition to the collective agreement for Dutch universities has been completed.

Final agreement was reached on a collective agreement for the period from 1 September 2007 to 1 March 2010. Besides a phased salary increase totalling 4.35 percent, other agreements included a three-step increase in the end-of-year bonus to a full thirteenth-month bonus.

Agreement was reached with the Works Council on an entirely new reorganisation code to replace the former guidelines from 2000. The new code more closely reflects the division of powers between the general board, the Academy's board of management and the directors of the institutes.

In connection with the proposed relocation of the two NIOO offices to Wageningen, agreement was reached with the employees' organisations in the Local Consultation Committee on a Social Plan for Relocation. In August 2007 agreement was also reached with the trade unions in the Local Consultation Committee on a supplement to the KNAW Social Policy Framework 2006.

At the end of 2007, the Academy's board of management and the employees' organisations in the Local Consultation Committee concluded agreements on how the money available for fringe benefits will be spent in the next five years. It was agreed that the leave scheme for older workers and the supplementary disability insurance scheme IPAP would continue. The central programme for career orientation will be expanded with a labour market assessment for temporary staff. New benefits that were agreed are an internet allowance and the creation of a women's network to encourage more women to be promoted to senior positions.

KNAW Bureau

In the spring of 2007 it was decided to abolish the publicity and Edita departments. Most of their tasks have been transferred to a new Communications department, which is better suited to increasing the professionalism of internal and external communication. Some of the tasks of the Edita department were delegated to the ICT department. The publishing activities themselves have been outsourced to Uitgeverij Aksant, which is part of the IISG. Publications that the Academy wants to promote will be published under its own imprint (“KNAW Press”). The other activities of the Edita department will be phased out. The Academy wishes to express its appreciation of the work performed for so many years by the manager and the staff of the department.

The placement process was completed in mid-October 2007. Three employees ultimately face dismissal. In accordance with the KNAW Social Policy Framework 2006 they are eligible for assistance in finding new work. The new Communications department formally started operations on 1 January 2008.

Research information

In mid-2007 the Academy started the implementation of Metis, a system for registering information about research. Metis will be fully implemented for all Academy institutes in 2008. In addition to this system, a digital warehouse (EPrints) has been selected for storing and providing access to KNAW publications.

In January, DAREnet (www.darenet.nl), which was developed as part of a SURF programme, went on line. This research portal provides access to the digital warehouses of every Dutch research centre. The Academy will integrate this portal into NARCIS (www.narcis.info) and so offer a single national website with access to full-text publications, research data, information about research institutes, researchers, research projects and scientific and scholarly newsletters.

ICT

A multi-year plan (2007-2010) has been drawn up to streamline and upgrade the ICT infrastructure. Four domains have been distinguished: basic infrastructure, business operations, internal and external communication and research and collection management. Various projects have been planned in these domains and preparations were made for them in 2007. Some of them have already produced results. For example, several new information systems have been introduced: EPrints for the storage and dissemination of publications, LANdesk for the automation of ICT administration and information security, Smartsite for creating websites and TOPdesk to support ICT management.

At the KNAW Bureau, the ageing e-mail environment was replaced in anticipation of an office automation upgrade in 2008. A wireless network has been installed. The financial information system AccountView has been reinstalled on new hardware, which has yielded a substantial improvement in performance and stability.

The consultation procedures with the institutes about ICT have also been improved. A number of bodies have been established to coordinate developments and plans: the ICT Advisory Council (strategic), the ICT Platform (tactical) and the ICT administration group (operational). A security officer was also appointed, as well as an information security team with representatives from four institutes. Special meetings were organised on topics such as long-term data storage, GIS and video conferencing.

The ICT services are arranged centrally for the Bureau and DANS, and since mid-2007 for ICIN. They will be regulated by Service Level Agreements. Talks are being held with the Huygens Institute and the Meertens Institute about taking over their ICT services in 2008.

Various other central services are provided for other institutes, such as back-up management, website hosting and network management. The interfaces of several institutes with the Academy's network will be upgraded in the spring of 2008.

Institutes' accommodation

The Academy's accommodation policy and the agenda for the coming years are laid down in the memorandum *Huisvesting KNAW 2005-2015* [KNAW Accommodation Policy 2015-2015]. Every year the accommodation policy is updated in consultation with the institutes and an annual plan is drawn up. The strategic principles are to establish institutes on university campuses and to cluster institutes in the interests of scientific and scholarly cooperation and effective operations. For example, the Huygens Institute occupied new premises in the building of the Royal Library in The Hague in 2007.

The specifications for the NIOO's new building in Wageningen were worked up into a provisional design in 2007 and approved by the municipality's architectural supervisor. In 2007, consultants were hired to advise on construction, installations, environment and security.

In the middle of 2007 work started on the construction of an additional floor in the NIN building in the grounds of the AMC. The extension is due to be completed in March 2008. TNO carried out a security scan of the current organisational and technical security systems and proposed additional security measures, which will be implemented in 2008.

The Fungal Biodiversity Centre was designated as a high-risk project by the National Anti-Terrorism Coordinator because it uses chemical, biological, radiological and nuclear (CBRN) materials. A site visit by the Coordinator's office showed that the CBS's precautions are adequate, although the vulnerability to external threats could be reduced. The Ministry of Education, Culture and Science has promised an additional subsidy for further security measures.

The interior of the Hubrecht Institute was renovated so that six of the thirteen portacabins could be removed. A study was also conducted into the additional accommodation required for the prospective collaboration with the UMCU.

In view of the cutbacks, housing of several humanities institutes in joint accommodation could be a significant way of generating savings in the longer term. Various scenarios will be explored in 2008.

Finances

Operating result

Total income in 2007 came to EUR 135.1 million and total expenditures were EUR 127 million, yielding an operating profit of EUR 8.1 million. The majority of this sum, EUR 5.9 million, relates to internal reserves and liabilities that will have to be paid in 2008 or subsequent years. The positive balances of the individual units can be largely explained by higher revenues, amounts reserved for projects and the fact that vacancies could not be filled. The Academy has had to create a provision of EUR 4.5 million for long-service benefits and the scheme for older employees due to changes in the regulations.

Funds

The results of asset management have been analysed for a period covering several years up to and including 2006. The main conclusion was that the amount that the various funds could spend each year would have to be reviewed as a result of the slumping markets and disappointing returns. The board of the Academy therefore decided to reduce the amount to be spent by the funds in the period from 2008 to 2010 by around 25 percent. In view of the disappointing return on the investment of the funds' capital in 2007, it was decided to make a one-off payment of one million euros from the normal operating budget towards the costs associated with the funds' objectives.

European projects

The majority of the Academy's institutes are engaged in European projects. The EU's financial reporting requirements for its projects are increasingly stringent. Changes will therefore be made in the institutes' financial administration. Firstly, the procedures for recording hours worked will be tightened up. Secondly, measures will be taken to report the integrated costs for EU projects. This will have a major impact on all administrative processes and will call for a redesign of the processes and further professionalisation throughout the financial column.

Integrated risk management

At the end of 2007 the Academy's board of management approved an action plan for the introduction of integrated risk management. At the beginning of 2008 an analysis will be carried out to identify the most important risks threatening the Academy's principal objectives. The analysis will review the possibility of the risks occurring and the impact if they do and assess whether adequate precautions are in place. The measures will be monitored on the basis of six-monthly risk management reports. The measures taken will be evaluated at the beginning of 2009 with a view to wider implementation.