

***FY 2004***

**Annual Report**

April 2004 - March 2005

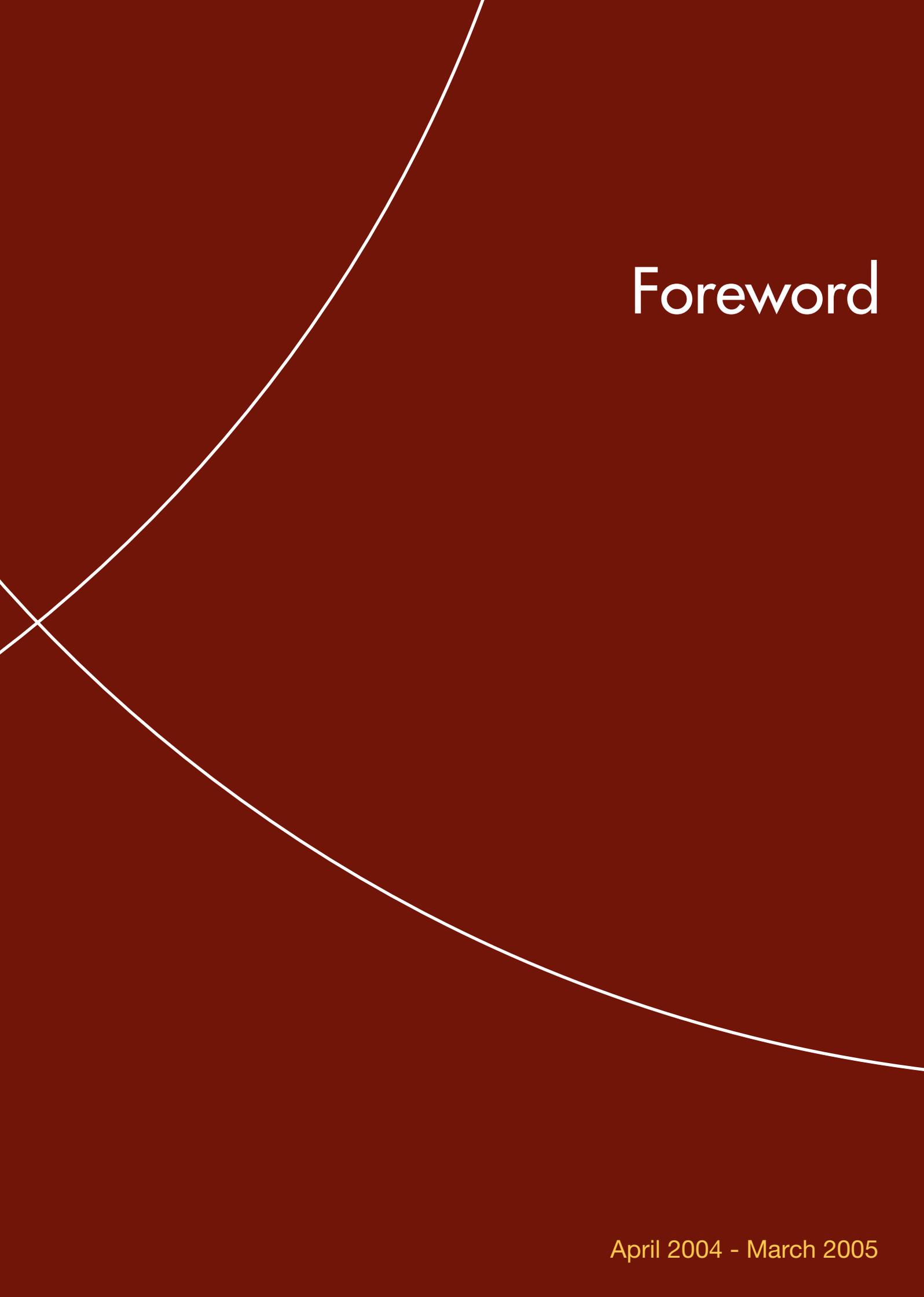


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\*For previous documents or updated lists of awardees, see HFSP website ([www.hfsp.org](http://www.hfsp.org))





# Foreword

April 2004 - March 2005

*Opening remarks of Mr. Yasuhiro Nakasone, former Prime Minister of Japan on the occasion of the 15th anniversary celebration of the Human Frontier Science Program in Hakone, Japan on 15 May, 2004.*



I am pleased to be part of the celebrations of the 15th anniversary of the Human Frontier Science Program (HFSP) and express my sincere gratitude to the many guests who have come from overseas for this occasion. I would like to acknowledge the efforts of the President, Professor Masao Ito, and the Secretary General, Professor Torsten Wiesel, in developing the Program and thank the various Japanese ministries for their effective coordination of this anniversary event. I express again my best regards to all involved.

At the G7 summit meeting in Venice in 1987, I proposed the launch of this Program for international cooperation. This proposal was warmly welcomed by my colleagues, the heads of G7 governments and the EU, and the Program was fully implemented. In 1989, the head-quarters were officially established in Strasbourg, France.

I am greatly impressed by the remarkable progress of the Program over the last 15 years. During this period, nine HFSP grant awardees have become Nobel Prize winners (6 in Medicine-Physiology, 2 in Chemistry and 1 in Physics), an achievement which really does demonstrate the effectiveness of this Program.

It should also be noted, that during this period, more than 2,500 researchers benefited from Research Grants and more than 1,900 Long-Term Fellowships have been awarded. When the nine Nobel Prizes are seen in this context, HFSP's achievement in providing increased support for world class scientists becomes clear. To all involved in managing the Program, I express my appreciation.

The tremendous scientific progress of recent years has brought us closer to the elucidation of the principles of living organisms. With the completion of sequencing of the human genome in 2003 and the discovery of stem cells, the possibility of generating human life itself has become feasible.

At the G7 summit meeting in Williamsburg, US, in 1983, I called for an international meeting bringing together philosophers, medical doctors, scientists and sociologists, as well as theologians and religious representatives, to address the problem of how the life sciences could preserve the dignity of human beings. It was recommended that the results of this meeting be widely distributed to universities and research institutes throughout the world. This proposal received wide support and was implemented over the following six years in every participating country. At that time, science was often portrayed as opposed to life, but this conflict was in fact the focus of many other underlying concerns. However, when I proposed HFSP at the G7 summit meeting in Venice in 1987, it was impressive to hear the heads of G7 members discuss the project enthusiastically and give their full support to this novel idea.

Life is very mysterious, its depths difficult to fathom. I believe that human beings are distinguished from other forms of life by the challenge presented to us to elucidate life. My hope is that the world's scientists will succeed in rising to this challenge, that they will carefully push back the limits of scientific knowledge, yet at the same time give due respect to life's mystery and depth.

If life is artificially created or the behavior of human beings is analyzed beyond certain points, it is inevitable that this will encroach upon the mystery or depth of human life, with all that is still beyond human understanding. We, political leaders must take these problems seriously. With the advice of scientists, we have to set the terms for research in order to meet the challenge of the 21st century. This will be to harmonize the life sciences with human dignity, as evoked in Williamsburg, with the value of HFSP, as proposed in Venice, as a legacy for future generations. Scientists already grappling with these issues are to be encouraged.

HFSP's budget currently stands at 53 million USD, shared by Japan (60%), US (20%) and Europe (20%). When I am asked about HFSP's budget by the Japanese Diet, or about the achievements of HFSP, I am always proud to describe recent developments. However, I do hope that further efforts will be made to increase the financial contributions of the US and Europe to reduce the Japanese share to about 50% by the Program's 20th anniversary. For Japan, it is important to redress this imbalance.

I reiterate my sincere gratitude to participants who have come to Hakone from overseas and close my remarks by wishing HFSP every success in the future.

Thank you.

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*Welcome to new members of HFSPO  
Professor Masao Ito, President of HFSPO*



*Prof. Suh, Ms. Northcott, Prof. Ito, Ms. Martin, Prof. Wiesel*

Fifteen years after the establishment of the Human Frontier Science Program Organization (HFSPO), the accession of two new members is an encouraging sign of the growth and vitality of this unique program for collaborative international research. It was therefore with great enthusiasm that the Board of Trustees (Board) welcomed Australia and the Republic of Korea to HFSPO in December 2004. Both had expressed interest in the Program from its early days in the 1990's, so it was most appropriate that their applications were the first to fulfil the terms of the "Guidelines for the participation of new members in the Human Frontier Science Program", recently elaborated by the Board (see Annex 3). Australia and the Republic of Korea now join the other Management Supporting Parties (MSPs), Canada, France, Germany, Italy, Japan, Switzerland, the UK, the USA and the EU in determining HFSP policy and in supporting the Program financially, with the associated benefits<sup>1</sup>. As President of HFSPO, I wish to extend my own personal welcome to our new partners in the Asia-Pacific.

I also warmly welcome the ten countries who joined the European Union in May 2004, Cyprus (EU part), the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia. The enlargement of the European Union strengthens HFSP's presence in Europe, making the benefits of HFSP membership accessible to a much larger constituency of scientists.

It should be noted that the representatives at the Berlin Intergovernmental Conference in June, 2002 stressed the importance of actively seeking new members, particularly in Asia, to enhance the international character of the Program and achieve a better intercontinental balance between members. With the accession of Australia and the Republic of Korea, the Asia – Pacific region is now well represented, enriching the scientific excellence and cultural diversity of the Program; in parallel, it is hoped that HFSP's strengthened presence in the Asia - Pacific region will stimulate further scientific and technological development there.

On reviewing the applications for membership, the Board was impressed by the level of investment in basic life science research in Australia and the Republic of Korea and the high quality of research carried out there. The applications were also clearly motivated by a groundswell of support among scientists for participation in the Program. It is hoped that the recent expansion of the HFSP community will encourage other potential partners to seek membership as they recognise the unique opportunities offered by HFSP for the training of younger scientists and for international collaborative research at the highest level.

<sup>1</sup> These benefits include the opportunity to take on the role of Principal Investigator in a Research Grant team and to receive training in a host laboratory in any country of the world as an HFSP fellow.



The 15th anniversary of HFSP was celebrated in June, 2004, in Hakone, Japan, prior to the 4th Awardees Annual Meeting. As in previous years, this meeting brought together fellows and grantees across a broad spectrum of age and expertise to report on HFSP funded research. It also offered participants the opportunity to expand their networks and establish new collaborations. Creating networks is one of the most valuable contributions of HFSP to life science research. It is also a powerful incentive to countries considering membership. It is therefore my hope that as scientists in Australia, the Republic of Korea and the European Union enlarge their research networks and begin to reap the benefits in terms of scientific achievement, so other political leaders will be encouraged to recognise the value of the Program and consider HFSP as a priority for support.

A handwritten signature in black ink, which appears to read "Masao Akiyama". The signature is written in a cursive, flowing style.

## Foreword

*Report of the Secretary General, Professor Torsten Wiesel*

This has been a milestone year for the Human Frontier Science Program. In conjunction with our 4th Awardees Annual Meeting, held on 15-18 May, 2004 in Hakone, Japan, we celebrated the 15th anniversary of HFSP's establishment, a celebration which included an address presented by former Prime Minister of Japan Yasuhiro Nakasone (a translation of which is printed above). It was through Prime Minister Nakasone's visionary leadership that HFSP was first proposed at the G7 summit meeting in Venice in 1987, with the program beginning its operations in 1989. The Annual Awardees' Meeting in Hakone was a major success both in terms of the number of people it attracted (especially talented young scientists in the formative stages of their careers) and in the impressive quality, depth and range of the scientific investigations represented in talks and poster sessions. My conversations with members of the Japanese scientific community and science funding agencies who were present at the meeting indicated that our hosts gained an enhanced and very human sense of the strength of HFSP-supported research programs. Indeed, the scientific presentations at Hakone beautifully affirmed the high goals set by the initiators of HFSP in creating this unique program that fosters leading-edge life science research across both national and disciplinary boundaries.

In continued pursuit of these goals, HFSP has in recent years adapted its programs in major new ways to meet the evolving needs of life scientists and the challenges of basic research into the complex mechanisms of living organisms. HFSP has merged its programs to focus on the problem of biological complexity, while renewing its emphasis on supporting truly interdisciplinary, innovative and risk-taking research. In order to enhance opportunities not only for the most talented young scientists to receive training in the world's best life science laboratories, but also to seed and nurture their independent research careers in their home countries, HFSP has added a flexible



third year to Long-Term Fellowships, just begun a Cross-Disciplinary program and introduced Career Development Awards and Young Investigator Grants. Together with its senior Research Grant programs, no other funding agency supports international life science research in such an interconnected and comprehensive fashion, from post-doctoral fellow to junior independent investigator to senior established investigator. Indeed, other leading science funding agencies around the world are increasingly looking to HFSP as a model for supporting 21st century life science research.

The unique value of HFSP and the enhancements provided by these new initiatives was enthusiastically endorsed on 24-25 June, 2004 at the Fourth Intergovernmental Conference, held in Berne, Switzerland, which brought together representatives of the Management Supporting Parties of Canada, France, Germany, Italy, Japan, Switzerland, the UK, the USA and the EU. HFSP IGC members endorsed a stable, three-year budgetary plan to continue the program during fiscal years 2005-2007 and to try to provide additional resources for the program.

HFSP IGC members agreed to a 2007 goal of a budget of 60 million USD, with a framework for increasing MSP support so as to balance Japan's overall contribution to the program at about 50%, or 30 million USD. (This budgetary target level does not include contributions from the newest members of HFSP, Australia and the Republic of South Korea.) The next meeting of the HFSP IGC will be held in 2007.

Having been involved with many world-renowned scientific institutions and funding agencies over the years, I should again mention how impressed I have been personally with the extremely efficient administrative operations of HFSP. HFSP operates at the highest scientific standards of excellence and originality, yet devotes only a small percentage of its budget to overhead costs. Though we support the work of hundreds of researchers, there is no bureaucracy at HFSP. Our small staff operates in a streamlined, flexible manner to complement the outstanding contributions of the scientists who make up our Review Committees and Council of Scientists, as well as our Board of Trustees. In this way, a very high proportion of the money contributed by MSPs goes directly to researchers and to promoting superb life science research, training and international collaborations.

During the past year we awarded the first Cross-Disciplinary Fellowships, designed to support talented young scientists from physics, chemistry, mathematics, engineering and computer sciences who wish to receive training in biology. This new category of Long-Term Fellowship is part of an ongoing effort to promote novel, innovative and interdisciplinary approaches to the challenge of elucidating the complexity of living systems. Understanding the complex inner workings of genomes, cell signalling networks, multi-protein molecular machines, and the exquisite organization of specialized cells into integrated systems will require the combined skills and imaginations of the most talented researchers from many fields of natural science and technology. It will require the forging of new instruments, and new ways of visualizing and

quantitatively describing biological phenomena: a new, cross-disciplinary language of life. In order to promote high-quality interdisciplinary life science, HFSP is actively exploring the possibility of publishing a new interdisciplinary journal. Market analysis indicates that there is a real need in the international scientific community for such a life science publication, which would serve as a forum reflecting the kind of productive cross-fertilization between disciplines that HFSP seeks to promote.

At the meeting of the Board in December 2004, we welcomed two new countries to HFSP: Australia and the Republic of Korea. Both countries are now represented on the Board of Trustees and Council of Scientists (Council). This is a partial realization of the desire by HFSP to widen MSP representation outside Europe, Japan and North America. The expansion of the European Union to include 10 additional nations has also greatly broadened the base of the vast talent pool of scientists eligible for HFSP funding. We are in active conversations with representatives from other countries, and our hope is that in future years India, China, additional countries from Europe and Asia, as well as countries from Latin America and Africa, will join the ranks of HFSP members so that we can be an intercontinental organization with the widest possible representation, while still maintaining the highest scientific standards.

This year we also published a report based on a workshop held in November 2003 in Trieste, co-sponsored by EMBO, TWAS and the Wellcome Trust, entitled: Promoting Life Science Research and Training in Developing Countries: A Need for Action (see website [www.hfsp.org](http://www.hfsp.org)).

This report recommended the creation of a web-based, central information source describing donor agency life science programs in the developing world, a central resource that could also evolve into an electronic bulletin board promoting contacts between scientists and students in the developing world and funding agencies and scientific counterparts in the developed world. HFSP was created out of the belief that frontier research in the life sciences could best be advanced by international cooperation and research alliances spanning continents and cultures. The relative lack of life science education and research facilities in the developing world has serious consequences for economic growth, healthcare and educational systems in developing regions.

But in order to seed and nurture life science globally, we must coordinate our efforts to identify and support talented researchers, and to adapt initiatives to local needs. The Italian Nobel Laureate Physicist Riccardo Giacconi once said: "A scientist is like a painter. Michelangelo became a great artist because he had been given a wall to paint." Dr. Giacconi's wall, he added, was given to him by research opportunities and resources in the United States.

It is the aim of HFSP to provide the most talented and imaginative scientists in the world with the tools and resources to paint fundamental new pictures of biological complexity, pictures that we will need to understand living processes for the benefit of humanity. This great scientific endeavor should not be restricted to researchers in highly-developed nations, but should grow out of the concerted work of scientists from all regions of the world.

It has been a privilege and a pleasure to serve as Secretary General of HFSP since 2000. At its December 2004 meeting, the Board asked that this appointment be extended from 2006 for an additional three years, an extension I accepted with pleasure. I hope that during this period HFSP can continue to optimize the use of its resources with highly effective and flexible programs and initiatives, reaffirming the wisdom and imagination of the founders of HFSP fifteen years ago.



Tom Wink

# Scientific Profiles

*HFSP promotes basic research in the life sciences that is innovative, interdisciplinary and requires international collaboration.*

*By means of the range of awards available, (Long-Term Fellowships, Cross-Disciplinary Fellowships, Short-Term Fellowships, Career Development Awards, Young Investigator Grants and Program Grants) HFSP makes a career-long commitment to researchers worldwide, providing them with opportunities for training, repatriation and international collaboration.*

*In the 15 years of its existence, HFSP has built up an international constituency of excellent scientists who put into practice the multilateral approaches that will eventually unravel the complex mechanisms of living organisms.*

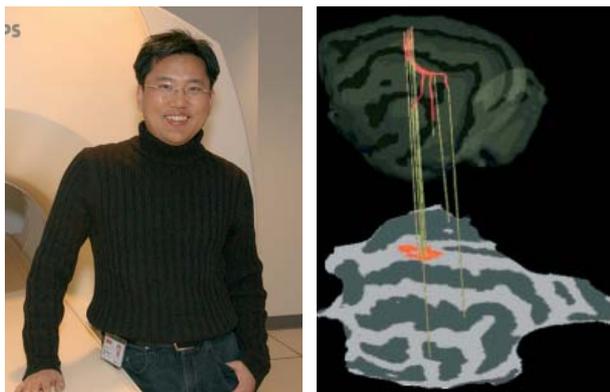
*Examples of the research and researchers funded by HFSP are given in the two profiles that follow.*

### Imaging Brain Functions and Connectivity Simultaneously

*Dae-Shik Kim, Center for Biomedical Imaging, Boston, is the principal investigator of a Young Investigator Grant awarded in 2001. Dae-Shik Kim is of German nationality.*

In 1998, neuroscientist Dae-Shik Kim had a bold new idea. Dae-Shik was then working at the frontier of functional Magnetic Resonance Imaging (fMRI), the spectacular methodology for visualizing the location of specific neural functions in living brains in a non-invasive fashion. Yet Dae-Shik was frustrated by a major limitation of fMRI. fMRI reveals where in the brain neural activity occurs when a human subject performs a specific task. But fMRI could not illuminate how this pattern of neural activity in specific brain regions is achieved. For a brain region's functional activity pattern is ultimately determined by the anatomical pattern of neural connections feeding into and out of the region: anatomical information about neural circuitry to which conventional fMRI is blind.

Then Dae-Shik learned that a related magnetic resonance methodology, called Diffusion Tensor Imaging (DTI), was being adapted to visualize non-invasively patterns of axonal fibers in living brains. And Dae-Shik thought: why not combine fMRI and DTI? Why not perform these two complementary magnetic resonance imaging techniques in the same brain in the same experiment, enabling the investigator to visualize not only the regions of the brain activated during a specific brain function, but the pattern of neuronal connections linking these regions to each other and to the rest of the brain?



"This was the idea I had, and I thought it was quite logical," Dae-Shik remembers. Dae-Shik, then a young faculty member at the University of Minnesota, applied for an NIH grant to turn this logical idea into experimental reality. But there was one major problem with this grant. "I had almost zero preliminary data."

This is the Catch-22 of most conventional grant proposals. The investigator must typically have a body of preliminary data supporting the validity of the idea being proposed; he or she must already be well on the way along the research path for which funding is sought. But if the idea is truly new, as in Dae-Shik's case, where is he to get the funds to embark along this new path, to begin to collect the body of preliminary data convincing enough to demonstrate that a truly novel idea can be translated into reality?

Dae-Shik's initial NIH application was rejected as too risky, since it was not yet supported by a body of experimental results. Fortunately, Dae-Shik learned of the then-new HFSP Young Investigator grants program, and HFSP's guidelines supporting well-argued, high-impact project proposals even in the absence of preliminary data. Dae-Shik assembled a world class international and interdisciplinary team consisting of himself as primary investigator, Johns Hopkins physicist Susumu Mori, and University of Maastricht (The Netherlands) computational expert Rainer Goebel. With an HFSP grant extending to May 2005, the three young investigators have been able to demonstrate the feasibility of Dae-Shik's novel idea for a new hybrid imaging methodology. Moreover, with these proof-of-principle results in hand, the Dae-Shik team has obtained significant new funding to extend their groundbreaking studies to such vanguard biomedical problems as the neural basis of human face recognition, and the nature of the abnormal outgrowth of axonal connections associated with autism.

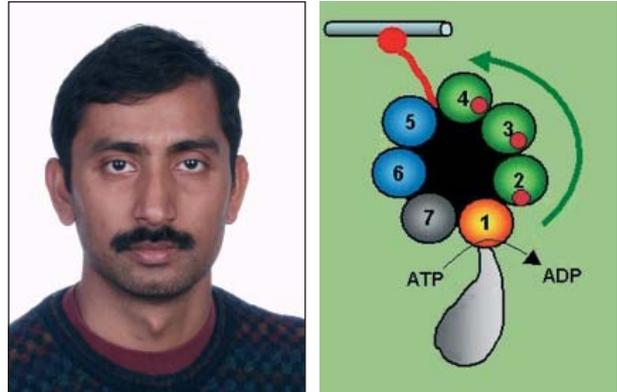
*Imaging Neural Function and Connectivity in the Same Experiment : an active region of cat cerebral cortex (orange patch on flattened view of brain below; top of yellow lines on 3-D brain above), imaged by functional MRI, serves as a «seeding point» to reconstruct, by Diffusion Tensor Imaging, the axonal fibers (red and yellow lines) connected to this brain region.*

### Nature Was There First: Modeling a Nanoscale Gear Mechanism within the Dynein Molecular Motor

Roop Mallik is a Long-Term Fellow, awarded in 2002. He is Indian and is in training at the Department of Developmental and Cell Biology at the University of California, Irvine, USA.

In May 2004, en route to the 4th Annual HFSP Awardees' meeting in Hakone, Japan, HFSP fellow Roop Mallik went back to his hometown in India to visit his father, a retired mechanical engineer. His father's main interest had been machine design; he had specialized in gears. "And when I was a little kid," Roop remembers, "I would go to my father's workshop and try to understand, to visualize, how does this work, how does that work? Many things were beyond my understanding," he laughs, "but at least I made the attempt."

Now Roop's father had some questions about machine design for Roop. That February, Roop had published a remarkable paper in *Nature* with Steven Gross, the head of his University of California at Irvine lab, a paper which Roop had sent his father in his hometown of Allahabad. His father understood in a general sense that Roop studied a giant protein, dynein, one of three special classes of protein nanomachines that act as "molecular motors" to transport cargo around cells. And if the idea of his son's study of evolutionarily-designed motors that operate at the scale of nanometers was not enough to warm a retired machine designer and gear specialist's heart, the title of his son's *Nature* paper was tuned to strike an even deeper chord of paternal pride and wonder. The title read: "Cytoplasmic dynein functions as a gear in response to load." In this paper in one of the world's leading science journals, his son and Steve Gross were claiming that the dynein nanomotor contains a self-regulating gear that allows it to adjust the size of its "steps" and the force it generates as it tugs cargo along cellular tracks called microtubules.



*Model of a Molecular Gear : The ring-like head (circles 1-7) of the dynein molecular motor uses a stalk (red filament) to «walk» along a microtubule (gray rod). In response to high loads, dynein binds ATP to regulatory sites 2, 3 and 4 (green circles). This leads to progressively shorter but more forceful steps.*

This was an unprecedented hypothesis, one that is already beginning to open up new avenues of research not only into the biological architecture of natural nanoscale machines, but also into the underlying dynamic logic of the complex molecular interactions governing cellular life.

Roop plans to return to India in 2006 to start his own lab and continue his pathbreaking studies of molecular motors. He has already received an attractive offer of a position at a newly-expanding cross-disciplinary research institute in India. Utilizing a relatively new feature of HFSP Long-Term Fellowships, Roop is deferring the third year of his fellowship support to use in India upon his return, where he will also apply for an HFSP Career Development Award. "I think it's important that science spreads out, that people everywhere do science," says Roop. "And I want to give something back to my country also. "

During his time at Irvine, "Roop's really become a peer," says Steve Gross, who like Roop Mallik is a former physicist. "I think one of the major things Roop is going to be doing in his own lab is to build from the [single-molecule] foundation that he's established here and try to push the notion of how do you build complexity" within living cells—the central challenge of 21st century biology."





# Activities in FY 2004

April 2004 - March 2005

# 1. Aims and Activities of the Program

## Aims

HFSP promotes fundamental research in the life sciences with special emphasis on novel and interdisciplinary research, international and in particular intercontinental collaboration and support for young investigators.

Since its establishment in 1989, HFSP has demonstrated the value of creating a framework for competitive, collaborative, international research of the highest caliber and of providing young scientists with the opportunity to emerge as talented researchers capable of shaping the science of the future. To this end, HFSP maintains its vital place on the frontiers, promoting the most original of contemporary research.

During its first decade, HFSP established two general research areas within the broad framework of research into complex mechanisms of living organisms: brain science and molecular mechanisms of biological functions. However the rapid development of molecular and cellular neurobiology and the application of molecular genetics to problems in neuroscience led to considerable overlap in the techniques and approaches used in the two broad areas and in March 2001 the Board decided to combine the two research areas so as to focus on the study of complex mechanisms of living organisms. The fields supported range from biological functions at the molecular level to brain functions and include all levels of analysis, as complexity is inherent at all levels of research.

In parallel, life sciences have undergone a revolution in recent years, emerging as a leading scientific area with a convergence of interest from other disciplines such as physics, mathematics, chemistry, computer science and engineering on solving biological questions.

HFSP is particularly interested in involving scientists from outside the life sciences as part of research collaborations and as postdoctoral fellows.

HFSP has embarked on a series of initiatives to meet the fresh challenges posed by science. It also seeks to be at the forefront of research management by instituting a flexible framework for its Research Grant and Fellowship programs. This enables the world's best scientists to collaborate internationally under optimum conditions and younger scientists to obtain training essential to their future independence. To that end, HFSP keeps in close contact with other funding agencies in countries interested in developing and implementing common policies aimed at enabling young investigators to achieve independence.

At the Intergovernmental Conference in Berne in June 2004, the representatives of the Management Supporting Parties reaffirmed the above aims of HFSP and recognized that the scientific value of HFSP warrants its continuation for a further phase of three years. Taking into account past achievements and the projected scope and financial requirements of future HFSP activities, the representatives also agreed to adopt an indicative three-year budgetary plan (FY 2005-2007) as the fundamental framework for establishing the annual budget of HFSP (see Berne Communiqué in Annex 1).

## Activities

HFSP awards research grants and fellowships and organizes an Awardees Annual Meeting. These activities may be modified to meet the changing needs of the scientific community, on the recommendation of the Council and by the decision of the Board, after due consideration of reviews and of the funding policies of individual countries and funding agencies. Since 1990, 664 Research Grants involving 2643 scientists, and 1993 Long-Term and 12 Cross-Disciplinary Fellowships have been awarded. At its 33rd meeting in March 2005, the Board approved the award of 34 Research Grants involving 117 scientists, 12 Cross-Disciplinary Fellowships, 89 Long-Term Fellowships and 18 Career Development Awards. Researchers from 69 countries have received HFSP funding so far. Currently Japan provides about 57 % of the 54.4 million USD annual contributions of FY 2004 (for more information about Research Grants and Fellowships, see the respective Guidelines on the website).

## Research Grants

Research Grants are awarded to teams of two to four scientists from different countries and continents who wish to combine their expertise to approach questions that could not be answered by individual laboratories. Emphasis is placed on novel collaborations that bring together scientists from different disciplines (e.g. biology, chemistry, physics, mathematics, computer science, engineering) to focus on problems in the life sciences. To stimulate novel, daring ideas and innovative approaches, preliminary results are not required and applicants are expected to develop new lines of research.

Research teams must be international and preferably intercontinental. The principal applicant must be located in one of the member countries<sup>2</sup>. However, those scientists collaborating with the principal applicant may be situated anywhere in the world. Awards are made for a maximum of three years.

Two types of Research Grant are available:

**Young Investigator Grants** are awarded to teams of researchers, all of whom are within the first five years after obtaining an independent laboratory position (e.g. Assistant Professor, Lecturer or equivalent). Applications for Young Investigator Grants are reviewed in competition with each other independently of applications for Program Grants. From 2005, Young Investigator Grant teams will receive 250 thousand USD per year for two members, 350 thousand USD for three members, and 450 thousand USD for four or more<sup>3</sup>.

**Program Grants** are awarded to teams of independent researchers at any stage of their careers. The research team is expected to develop new lines of research through the collaboration. Applications including independent investigators early in their careers are encouraged. Priority will be given to new, innovative research projects for which preliminary results might not necessarily be available. Since 2004, the amount awarded depends on the size of the team and is currently 250 thousand USD per year for two members, 350 thousand USD for three members, and 450 thousand USD for four or more.

<sup>2</sup> Members as of the end of FY 2004: Australia, Canada, France, Germany, Italy, Japan, Republic of Korea, Switzerland, the United Kingdom, the United States of America and the European Union (these members are defined in the Statutes of the HFSP as Management Supporting Parties "MSPs"). With the expansion of the European Union in May 2004, researchers in its ten new member states became eligible to participate in all HFSP programs.

<sup>3</sup> Up to 2004, Young Investigator Grant teams received a standard amount of 250 thousand USD per team per year.

## Aims and Activities

### Two-step Review Procedure:

In March 2001, HFSP introduced a two-stage review procedure to encourage more high quality applications and to eliminate at an early stage those that do not conform to the specific HFSP requirements. Applicants must submit a Letter of Intent via the HFSP web site at the end of March or the beginning of April each year. Successful applicants are notified at the end of June and invited to submit a full application in September.

In March 2005, a further measure was introduced to reduce the response time for inappropriate applications; a small scientific committee now screens Letters of Intent and those that do not meet the criteria or the more general scientific aims of the Program do not enter the full review process. The Principal Applicant is informed as soon as possible so that the team may apply for funding elsewhere.

### Fellowships

Because young scientists are most open to new ideas and experiences, the HFSP established Fellowship programs to increase the mobility of young scientists between countries as well as disciplines. Postdoctoral scientists have been encouraged to receive training in new fields in order to broaden their scientific experience. With the increased complexity of science and its methodology, the process of learning new approaches requires longer periods of research training before a young investigator can achieve independence.

In response, HFSP has developed a more comprehensive approach, supporting outstanding young scientists from the initial stages of postdoctoral research training to the achievement of independent investigator status. The duration of the Long-Term Fellowship award has been increased to three years since 2000. Because it is often difficult for young investigators to obtain independent funding to pursue their own line of research early in their careers, HFSP initiated the Career Development Award in 2001.

This award is designed to facilitate a fellow's transition from postdoctoral researcher to independent junior scientist with further prospects of becoming an established investigator in the home country.

### Long-Term Fellowships

The aim of the Long-Term Fellowship program is to promote the development of a global network of talented young scientists by enabling postdoctoral fellows to obtain training in a new area of research in outstanding laboratories in another country. Fellows can obtain three years of postdoctoral support for research training in a new scientific area. The Long-Term Fellowship provides a living allowance equivalent to 36 thousand USD, an annual 6 thousand USD research and travel allowance, and 1 thousand USD for language training. The third (final) year of funding can either be used in the host laboratory or can be used to return to the home country, in which case, it can be deferred for up to two years.

### Cross-Disciplinary Fellowships

Cross-Disciplinary Fellowships are intended for postdoctoral fellows with a Ph.D. degree in the physical sciences, chemistry, mathematics, engineering or computer sciences who wish to receive training in the life sciences. The financial support is the same as for Long-Term Fellowships and the option of using the third year of HFSP funding to return to the home country is also available.

### Short-Term Fellowships

The Short-Term Fellowship program enables researchers who are early in their careers to spend two weeks to three months working in a laboratory in another country to learn new techniques or establish new collaborations. Former Long-Term Fellows can use this support to complete work initiated under their past HFSP fellowship. The fellowship provides travel and per diem support.

### Career Development Awards

The Career Development Award enables former HFSP fellows to establish themselves as independent young investigators in their home countries, enhancing the distribution of outstanding scientists open to new ideas and international collaboration throughout the world. It provides young investigators with independent funds to develop their own research program, thus building a culture of independent young researchers in all countries. Fellows beginning with award year 2000 are eligible for the Career Development Award after completion of at least two full years of their Long-Term Fellowship and within two years of completion of the Long-Term Fellowship. Applicants must either be in the process of obtaining or already hold a position in the home country in which they are able to conduct independent research. The award provides 180 thousand USD in total for two or three years.

### Awardees Annual Meeting <sup>4</sup>

All grantees in their third year and all Career Development Award holders and Fellows are invited to participate in the Awardees Annual Meeting. Other awardees are invited if space permits. This meeting brings together Research Grant awardees, Long-Term Fellows and CDA holders to stimulate interactions and hopefully lead to new collaborations among participants from different fields. The 4th Awardees Annual Meeting took place in Hakone, Japan, on 15-18 May, 2004.

There were 249 participants: 82 grantees, 119 fellows and 48 other participants, including members of the Board, Council, Review Committees and the Secretariat and local participants.

Awardees gave short presentations of their research and time was made available for questions and discussion. The plenary lectures, given by Prof. Christiane Nusslein-Volhard and Prof. Nobutaka Hirokawa, contributed greatly to the success of the meeting.

### HFSP Journal

A scientific journal dedicated to HFSP's mission to promote the Program's scientific goal of interdisciplinary and innovative research in the life sciences is being considered. A feasibility study is being carried out.

### Public relations and other activities

The scientific achievements of awardees and other Program-related information are reported on the website. The *Hot off the Press* rubric features recent publications of special interest by HFSP awardees presented for a broad scientific readership. In addition, occasional e-mail newsletters are distributed to more than 6000 subscribers (as of the end of FY 2004).

The Secretary-General met policy makers and administrators in several MSPs in order to update them directly as regards the activities of HFSP and to encourage them to lend firmer support to the Program. The Secretary-General also met leading members of the scientific community in China and India in the hope that these countries may be interested in joining HFSP in future years. Scientific Directors participated in scientific meetings so as to raise the visibility of the Program (see Annex 12).

<sup>4</sup> The 5th Awardees Annual Meeting takes place in Bethesda, USA, on 5-8 June 2005.

## 2. Implementation of Recent Initiatives

Several program initiatives were introduced following the appointment of Prof. Torsten Wiesel as Secretary General in April 2000. These were aimed at reinforcing the frontier nature of the science supported by the Program, at encouraging postdoctoral fellows to return to their home countries and at increasing contact between scientists from different fields through an annual meeting of HFSP awardees. The measures taken are outlined below. Although some of these initiatives will only show an effect after several years, this section of the Annual Report provides a status report on the measures taken to date.

### Unification of the HFSP scientific program

After its inception in 1989, HFSP supported grants and fellowships in two major areas, "Brain functions" and "Molecular approaches to biological functions". These two scientific areas were reviewed by different committees, but over the years it became apparent that these areas were converging more and more. It was therefore decided, starting with the 2002 awards, to merge them into a single program concerned with "complex mechanisms of living organisms". The focus of this unified program encompasses the former areas and includes all applications ranging from molecular studies to the level of higher brain functions. All applications are now reviewed by two committees, one for grants and one for fellowships, but all fields are covered by each committee. After four years of experience with this committee structure it is clear that it works very well and has become an accepted feature of the Program. It enables a consistent set of criteria to be applied to all applications, regardless of their field and is proving to be an excellent mechanism for evaluating applications according to the interdisciplinary mission of HFSP.

### Young Investigator Grant

The Young Investigator Grant scheme was introduced to encourage collaboration between young scientists who are within five years of obtaining their first independent positions. The first awards were made in 2001. Young Investigators are always invited to the Awardees Meeting, which provides an excellent opportunity for them to make contacts and allows HFSP to follow their careers. In the first year of Young Investigator awards, all grants received a flat amount of 250 thousand USD including the Program Grants. Following this transition year, Young Investigators continued to receive 250 thousand USD per year per team, but the amount for Program Grants was increased to a maximum of 450 thousand USD depending on the size of the team. To make the Young Investigator program equally attractive and provide a realistic amount for three and four member teams to carry out their projects, the Board decided to bring the amount awarded to Young Investigators in line with the Program Grants starting with the awards made in March 2005. In addition, local collaborations in the same institution, which are normally treated as one team member, will receive funds equivalent to 1.5 team members if the collaboration is truly interdisciplinary. This measure aims to facilitate the formation of teams involving scientists from different disciplines since it is often difficult for scientists, especially younger investigators, to find appropriate partners internationally.

Currently, applications from Young Investigators represent about 18% of the Letters of Intent received and these have a comparable success rate to those submitted for Program Grants.

### **Interdisciplinarity in Research Grants**

Over the last few years, the interest of scientists in all disciplines has been converging on the life sciences, either through the development of new techniques or application of new concepts to biological problems. Two measures have been taken to increase the interdisciplinary nature of the Research Grants. First, since the end of 2001, HFSP has been working with scientific societies in the physical and mathematical sciences to promote the opportunities offered by the Program. Secondly, the two-step procedure for submitting grant applications, where only a limited number of full applications are invited, allows a stringent selection of the initial letters of intent with consideration of how an application is relevant to HFSP's interdisciplinary goals as well as the quality and potential impact of the scientific proposal. As shown in Table 2-1, an increase in the proportion of applications from scientists located in departments outside the life sciences from ca. 7 % to 14 % was observed between 2001 and 2005 following greater publicity of the Program in those scientific communities. At the same time, introduction of the two step procedure more than doubled the total number of applications from around 350 in 2001 to over 700 in 2005, accompanied by a significant increase in the number of physical scientists applying to the Program. Of the Research Grant awards made (Table 2-2 and Figure 2-1), the proportion of scientists from outside the life sciences increased from 3 % to 28 % between 2001 and 2005. Considerable progress has therefore been made to enhance the interdisciplinary profile of the Research Grant program. This is reflected in a shift in the topics funded from important but rather "mainstream" biomedical research to more fundamental "frontier" approaches to biological problems (see Annex 7).

In parallel with this progress, it became clear by the 2004 award cycle that the analysis of interdisciplinarity based solely on the institutions of individual applicants and awardees, as described above, had reached its limits. The regrouping of departments or the creation of new multidisciplinary centers (in both cases including a classical 'biology' element in their title) or indeed the hiring of physical scientists by 'traditional' biological departments meant that individuals in such institutes were not detected as bringing new skills to bear on biological questions. In the 2004 awards, 20.7% of participants were from non-biological institutions and were present in 14 of the 33 funded projects, thus suggesting that only 42% of the projects were interdisciplinary. However when the analysis was extended to include non-biologists within biological departments, 32% of participants were clearly from non-biological disciplines and were present in 22 of the 33 funded projects. Thus 67% of the 2004 projects were in fact interdisciplinary.

This trend was confirmed in the 2005 cycle, where within the 34 awarded applications, 33 of the 117 team members (28.2 %) are from non-biological institutes and a further eight are biophysicists (35% in all). 24 of the projects have at least one team member from a non-biological institute and five more projects include a biophysicist. Thus 29 of 34 projects (85%) are interdisciplinary on this basis. Within the remaining five teams, there are two cases of scientists having PhDs in chemistry and one mathematician, all currently working in a traditional biological department. In fact the spirit of interdisciplinarity runs deeper, as several CVs of successful applicants show that the individuals started their career outside of the biological sciences.

For the sake of continuity we present the evolution of interdisciplinarity as estimated from the institutions where applicants or awardees are located. Although not exhaustive, this serves to illustrate the trends in interdisciplinarity over the last years.

Table 2-1

All Research Grant applicants per year in non-biological disciplines (%)

Year	Physics	Chemistry	Mathematics	Informatics	Engineering	Total
2001	0.9	2.9	0.3	1.1	1.9	7.1
2002	1.4	3.8	0.4	2.7	1.7	10.0
2003	1.8	2.6	1.1	2.6	2.6	10.7
2004	1.7	3.4	0.7	4.2	1.4	11.0
2005	2.3	4.0	0.8	4.9	2.2	14.2
2005*	5.3	4.6	2.0	5.3	3.6	20.8

\* based on full applications invited

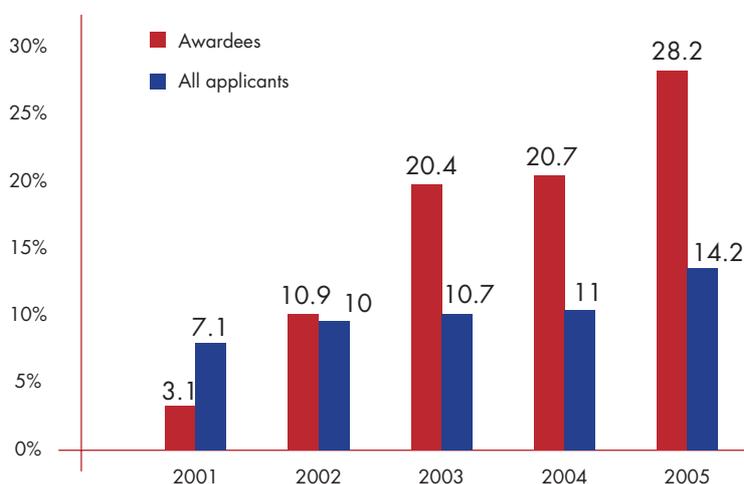
Table 2-2

Research Grant awardees per year in non-biological disciplines (%)

Year	Physics	Chemistry	Mathematics	Informatics	Engineering	Materials	Other	Total
2001	0	1.6	0	0.5	1			3.1
2002	1.7	4.2	0	4.2	0.8			10.9
2003	4.8	3.9	1.9	3.9	5.8			20.4
2004	9.4	6.6	0.9	1.9	2.8			20.7
2005	12	5.1	1.7	2.6	3.4	1.7	1.7	28.2

Figure 2-1.

% scientists from non-biological disciplines participating in Research Grants



### Long-Term Fellowships

HFSP Long-Term Fellowships have been extended from two to three years. Fellows may defer the start of their final year by up to two years if they obtain support from other sources. In order to increase the fellows' options after the first two years, the third fellowship year may be taken in the host laboratory or may be used as a stepping stone to return to the home country. Since this extension was introduced in award year 2000, it is still too early to identify any change in the pattern of return to the home country.

One key objective of the fellowship program is to provide young scientists with much broader training than in the past, enabling them to make a significant contribution to the new type of biology supported by HFSP programs. Parallel to the formal changes in fellowship tenure, increased emphasis is placed on encouraging applicants to propose a significant change in their research direction and on stimulating applicants with a different background and an interest in biological research to apply for HFSP fellowships. To this end, the Board approved the initiation of the Cross-Disciplinary Fellowship program, beginning in award year 2005. This new program provides an opportunity for applicants with a degree in physics, chemistry, mathematics, engineering etc. to receive extensive research training in biology. It is more difficult to introduce even a small degree of interdisciplinary research into a fellowship program supporting individual scientists than into a collaborative research grant program. However, fellowship applicants seem to welcome the concept of broadening their training through a change in research direction and many choose two host supervisors with complementary expertise. Indeed the number of fellowship applicants who choose two supervisors has doubled in the past two award cycles. This allows fellows to combine their own expertise with complementary expertise in the new research area present in the host laboratory.

To further improve the conditions of HFSP fellowship awards, the Board approved the introduction of parental leave at its meeting in December 2004. All current HFSP fellows may now apply for up to three months paid parental leave. The fellowship continues during parental leave and is extended for a corresponding period.

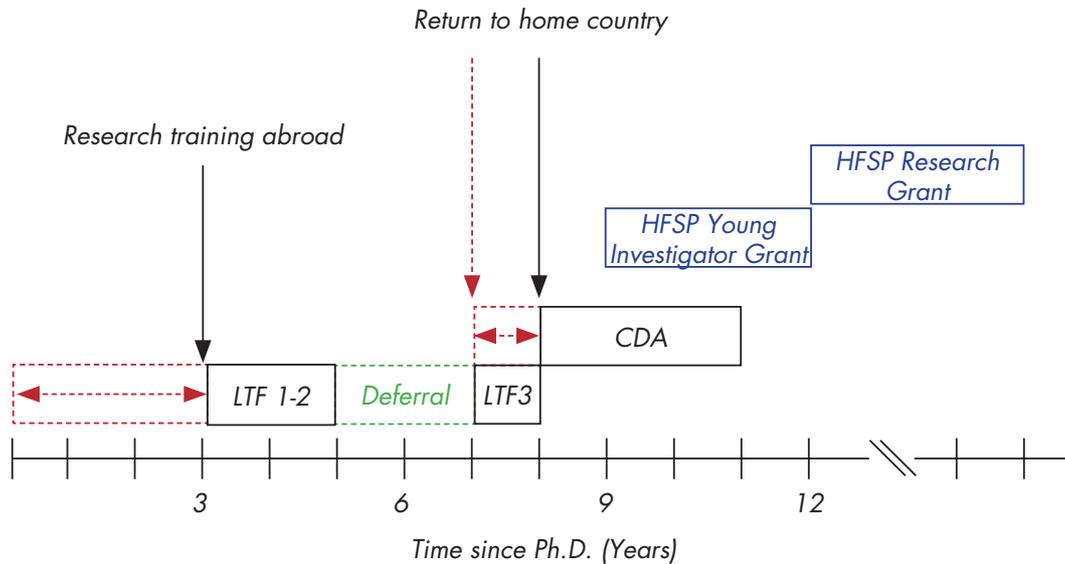
### Career Development Award

To encourage HFSP fellows to return to their home country and support their start as independent researchers in their own laboratories, HFSP has introduced a competitive Career Development Award. The award amount is 180 thousand USD, which can be spent over two or three years, depending on the needs of the awardee. The first Career Development Awards were made in March 2003. Since then, 43 young scientists have been awarded the CDA; they have returned to Argentina, Belgium, Canada, China, Denmark, France, Germany, Italy, Israel, Japan, the Republic of Korea, Spain, Switzerland and the Netherlands.

The Career Development Award is open to former HFSP fellows who have completed at least two years of tenure in the host laboratory and who intend to return to their home country. Since the inception of this award, 110 fellows from 21 different countries have applied for HFSP support to return to the scientific community in their country of origin.

From the overview of HFSP's support system given in Fig 2-2, it is evident that beginning with the Fellowship program, HFSP provides a long-term commitment to researchers up to the stage of senior investigator. By means of this system, HFSP offers outstanding young researchers a real perspective and encourages them to consider a scientific career.

Fig. 2-2  
HFSP Career and Research Support



### Awardees Annual Meetings

Starting in 2001, HFSP has been organizing annual meetings to bring together grant and fellowship awardees. The aim of these meetings is to allow greater interaction between HFSP awardees in the hope that this will encourage new collaborations and to build a greater sense of community among those who have been funded by the Program. The meeting is held in a different country each year, hosted by the MSPs. The first four were held in Turin, Italy (2001), Ottawa, Canada (2002), Cambridge, UK (2003) and Hakone, Japan (2004) (see Annex 11 for program). The fifth meeting is being organized at the NIH in Bethesda, USA in 2005. The meetings have been welcomed enthusiastically by the awardees and have provided members of the HFSP Board, Council, Review Committees and staff with an excellent opportunity to evaluate the work being funded and to increase the visibility of the HFSP in the host country.

### 3. Budget and Finance

The Human Frontier Science Program is supported by contributions from its "Management Supporting Parties" (MSPs): Canada, France, Germany, Italy, Japan, Switzerland, the United Kingdom, the United States of America and the European Union. Australia and the Republic of Korea joined the Program during FY 2004 and will become contributors in FY 2005.

#### 1. Background

**Certification of HFSP's financial statements.** HFSP's fiscal year 2004 ends on 31 March 2005. Accounts are certified by external auditors (Deloitte Audit) in May. Figures reported in the Annual Report correspond to the best estimate possible at the time of printing.

**HFSP Intergovernmental Conferences (IGC)** provide indicative funding frameworks:

- In Washington in 1997, MSPs' representatives "reaffirmed the goals of the 1992 Communiqué towards increased and equitable funding for the HFSP", and offered an example of a way to achieve these goals, calculated from a formula based on GNP. These "Washington Guidelines" (Table 3-1) proposed a total budget of 60 million USD.

- In Berlin, in June 2002, MSPs' representatives "agreed that the scientific value of HFSP justifies a funding level of 60 million USD and stressed the urgency of attaining a funding level of this amount and an equal match in the amount contributed by Japan and other MSPs by 2004".

#### Consolidation in USD and exchange rates:

HFSP's income and expenditure occur in several currencies and internal reports are consolidated in USD (legal reports are consolidated in EUR).

Exchange rates are different for FY 2004 budget and for FY 2004 reporting.

- FY 2004 budget: exchange rates are given below (amount in currency for one USD):

CAD	CHF	EUR	GBP	JPY
1.54	1.37	0.93	0.62	110

- FY 2004 financial reporting: a new method of consolidation was introduced for the first time this year after consultation with HFSP's internal and external auditors. Instead of using a fixed exchange rate for the conversion (eg. rate on 31 March 2005), income and expenditure were converted into USD at the exchange rate applicable on the value date of the operation as published by the European Central Bank. This method significantly improves the transparency and reliability of the consolidation process.

**Historical data for previous years** can be found in Annex 5.

**Table 3-1**  
Washington Guidelines for funding of HFSP

MSP	Contribution in million USD
Canada	0.80
France	2.05
Germany	3.20
Italy	1.55
Japan	37.00
Switzerland	0.45
UK	1.50
USA	10.45
European Union	3.00
<b>Total</b>	<b>60.00</b>

### 2. Income

#### Contributions budgeted:

The budget and program activity plan for FY 2004 were based on contributions indicated by MSP representatives at the Board meetings in December 2003 (30th Board meeting) and March 2004 (31st Board meeting) and later confirmed by letter. In the absence of any such indication and according to a well established practice, an MSP's contribution was estimated at the level of the previous year by default. On this assumption, an income of 52.6 million USD was budgeted, corresponding to 88% of the "Berlin Guidelines" of 60 million USD, with Japan contributing 60% of the total.

#### Contributions received for FY 2004 in local currency :

A detailed breakdown by MSP and contributing organization is given in Table 3-2. With the exception of the USA whose contribution was below budget, MSPs contributed the amount anticipated for FY 2004 in local currency. Italy and Germany slightly exceeded the budget and Canada paid in currencies other than those budgeted.

Table 3-2

FY 2004 contributions budgeted and received in local currencies (LC)\*

MSP Organization**	LC	Budget FY 2004 (million LC)	Payment received <sup>5</sup> for FY 2004 (million LC)
Canada	USD	0.80	n.a.
NSERC	USD		0.20
CIHR	CAD		0.20
CIHR	EUR		0.37
France	EUR	1.63	1.63
MAE	EUR	0.71	0.71
MER	EUR	0.53	0.53
Région Alsace***	EUR	0.15	0.15
CUS***	EUR	0.23	0.23
Germany	EUR	2.30	2.60
Italy	EUR	0.50	0.70
Japan ****	USD	31.25	31.25
METI (1 274.017 kJPY)	USD	11.58	11.58
MEXT (2 163 234 kJPY)	USD	19.66	19.66
Switzerland	CHF	0.87	0.87
UK	GBP	0.91	0.91
MRC	GBP	0.76	0.76
BBSRC	GBP	0.15	0.15
USA	USD	10.45	9.50
European Community	EUR	3.00	3.00
DG INFSO	EUR	1.50	1.50
DG RESEARCH	EUR	1.50	1.50

\* Subtotals may appear to be 0.01 in error due to rounding

\*\* For abbreviations, see acknowledgment on page 37

\*\*\* as host to HFSP0 Secretariat

\*\*\*\* Japanese contribution based on JPY value, but budgeted and paid in USD

<sup>5</sup> Note: From FY 2004, contributions include those actually paid and also those not yet received but formally confirmed in writing by members of the Board by the end of FY 2004.

### Contributions received for FY 2004 consolidated in USD:

All MSPs, except the USA, were above budget in USD. This is partly explained by contributions higher than budgeted in local currency (eg. Italy or Germany) and more generally by a lower exchange rate with the USD than budgeted.

The total amount of contribution reached 54.53 million USD (see Table 3-3), representing 91 % of the "Berlin Guidelines" of 60 million USD, with Japan contributing 57 % of the total, against a target of 50 %.

**Table 3-3**  
FY 2004 Contributions budgeted and received and consolidated in USD

MSP	Budget FY 2004 (budget rate)	Actual FY 2004 (actual rate)*
Canada	0.80	0.85
France	1.75	2.07
Germany	2.47	3.43
Italy	0.54	0.93
Japan	31.25	31.25
Switzerland	0.64	0.69
UK	1.47	1.63
USA	10.45	9.50
European Union	3.23	4.08
<b>Total</b>	<b>52.60</b>	<b>54.43</b>

\* rates on day of transaction

On a geographical basis, Asia (Japan) remained the main funder of the Program in FY 2004 (57%), followed by Europe (24 %) and North America (19%)

**Table 3-4**  
Regional distribution of annual contributions to HFSP0 (percentage of total)

Region	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Asia (Japan)	75	72	64	60	57
Europe	13	13	17	18	24
North America	12	15	19	21	19

**Overdue contributions from previous fiscal years :** 3.9 million EUR were overdue from previous years at the beginning of FY 2004. This amount was paid in full during FY 2004.

**Income from financial operations:** Capital gains from low risk monetary SICAV/UCITS<sup>6</sup> amounted to 0.7 million USD. There was no income from fixed term investments since none of these reached maturity in FY 2004.

<sup>6</sup> UCITS = Undertakings for Collective Investments in Transferable Securities such as French SICAV.

### 3. Expenditure

#### Administrative expenses.

An improved analytical accounting system and more accurate cost allocation between Program expenses and those incurred by the Secretariat (travel costs, consultancy fees) were implemented. Since most administrative expenses are incurred in Euros, expenses in EUR reflect better the actual evolution of administrative expenses before the exchange rate impact. Secretariat expenses were 6.3 % below budget at 2.93 million EUR (Table 3-5). On the contrary and not surprisingly, Secretariat expenses, consolidated in USD, were 10 % above budget due to exchange rates lower than budgeted for the USD. The impact of the exchange rate is illustrated by salaries and social taxes that were close to budget in EUR but 20 % above budget after conversion into USD.

Table 3-5  
HFSP0 Administrative expenses in FY 2004 in EUR and in USD

Administrative expenses	in million EUR				in million USD			
	BUDGET FY 2004	ACTUAL FY 2004	VARIANCE	VARIANCE (%)	BUDGET FY 2004	ACTUAL FY 2004	VARIANCE	VARIANCE (%)
Salaries, social taxes	1.90	1.94	0.04	2%	2.04	2.44	0.40	20%
In kind*	0.06	0.05	-0.01	-15%	0.06	0.06	0.00	0%
Honorarium, services	0.38	0.27	-0.11	-29%	0.41	0.34	-0.07	-16%
Meetings, travel	0.56	0.42	-0.14	-25%	0.60	0.53	-0.07	-12%
Supplies, rental, maintenance	0.23	0.25	0.02	9%	0.25	0.32	0.07	27%
TOTAL SECRETARIAT EXPENSES	3.13	2.93	-0.20	-6%	3.36	3.69	0.33	10%
Depreciation, income tax	0.20	0.17	-0.03	-18%	0.22	0.21	-0.01	-3%
TOTAL ADMINISTRATIVE EXPENSES	3.33	3.10	-0.23	-7%	3.58	3.90	0.32	9%
Provisions		0.21	0.21	n.a		0.26	0.26	n.a

\*60 thousand USD converted into EUR

Administrative expenses in USD represented 7.4 % of total expenditure.

For the first time this year, provisions were made for two potential risks: major unplanned repair work to the building acquired in FY 2003 for the Secretariat as a medium term investment (90 thousand EUR) and the risk that an overdue contribution from FY 1997 (118 thousand EUR) might not be recovered. Though not actual expenditure, these amounts are nevertheless unavailable for the payment of awards.

**Annual expenses for Program activities** amounted to a total of 48.53 million USD, 2.03 million USD below budget (4 %) (Table 3-6). This difference is primarily explained by “phasing”, whereby some grants or fellowships start later than planned, or CDAs are spread over three years instead of two. The corresponding shift in payment from FY 2004 to later years represents about 1.46 million USD.

Research Grant payments amounted to 34.37 million USD (70.8 % of total Program activities). Long-Term Fellowships, Short-Term Fellowships and Career Development Awards amounted to 13.76 million USD (28.4 %). The Awardees Annual Meeting was very close to budget (310 thousand USD). Expenses for the HFSP Journal feasibility study were below budget (85 thousand USD).

**Table 3-6**  
Expenditure for HFSP Program activities in FY 2004

<i>PROGRAM ACTIVITIES</i>	<i>Budget (million USD)</i>	<i>Actual (million USD)</i>	<i>Variance</i>	<i>Variance (%)</i>
Program Grant (PG)	28.52	27.99	-0.53	-1.86%
Young Investigator Grant (YI)	6.50	6.38	-0.12	-1.86%
Long-Term Fellowship (LTF)	12.76	12.01	-0.75	-5.86%
Short-Term Fellowship (STF)	0.20	0.20	0.00	0.00%
Career Development Award (CDA)	2.08	1.55	-0.53	-25.29%
Total awards	50.06	48.13	-1.93	-3.85%
Awardees Annual Meeting	0.30	0.31	0.01	2.33%
HFSP Journal feasibility study	0.20	0.09	-0.11	-57.50%
<b>TOTAL PROGRAM ACTIVITIES</b>	<b>50.56</b>	<b>48.53</b>	<b>-2.03</b>	<b>-4.02%</b>

### Committed funds for the future payment of awardees

From the outset, HFSP has always considered it essential that fellows and grantees be guaranteed accurate and timely payments for the duration of their HFSP award. To this end, the funds necessary to ensure these financial obligations are set aside. These funds are referred to as "committed funds" in the Accounting Summary.

A new and more accurate procedure was introduced this year, enabling payments to be estimated directly from the awardees database and replacing models and simulations. At the end of FY 2004, these committed funds amounted to 56.59 million USD (Table 3-7), of which 62 % were set aside for Research Grants, and 38 % for Long-Term Fellowships and Career Development Awards.

As mentioned above, these committed funds were slightly above budget because of a shift in payments from FY 2004 to future years.

In order to be able to guarantee these payments, HFSP should at least match its commitments with its assets at the end of FY 2004.

On 31 March 2005, HFSP's assets amounted to 63.11 million USD, including the building that hosts the Secretariat (Table 3-8). This figure is above total committed funds by 6.52 million USD. Future payments to current awardees are therefore secured.

**Table 3-7**

Committed funds beyond FY 2004 for future payments of current awards

<i>PROGRAM ACTIVITIES</i>	<i>Budget (million USD)</i>	<i>Actual (million USD)</i>	<i>Variance</i>	<i>Variance (%)</i>
PG	29.66	29.74	0.08	0.3%
YI	5.25	5.29	0.04	0.7%
LTF	13.85	14.93	1.08	7.8%
CDA	6.37	6.63	0.26	4.1%
COMMITTED AWARDS BEYOND FY 2004	55.13	56.59	1.46	2.7%

**Table 3-8**

Balance of assets and committed funds owned by HFSP0 at the end of FY 2004 (rate at 31/03/2005)

<i>Assets (as of 31/3/2005)</i>	<i>In million USD</i>	<i>Committed funds beyond FY 2004</i>	<i>In million USD</i>
Current accounts	0.45	PG	29.74
SICAV / UCITS	29.29	YI	5.29
Structured products	28.00	LTF	14.93
Contributions to be received	2.45	CDA	6.63
Building (purchase value)	2.92	Total committed funds	56.59
Total assets	63.11	Balance*	6.52
TOTAL	63.11		63.11

\* Building : 2.9, balance from FY 2003 : 3.2, provisions : 0.3, annual surplus : 0.1

A summary of resources and expenditure for FY 2004 is shown in the accounting summary (Table 3-9).

**Table 3-9**

Accounting summary for FY 2004 consolidated in USD

<i>RESOURCES</i>	<i>in million USD at actual rate</i>	<i>EXPENDITURE</i>	<i>in million USD at actual rate</i>
CONTRIBUTIONS	54.43	ADMINISTRATIVE EXPENSES	3.90
Canada	0.85	Provisions	0.26
France	2.07	PROGRAM ACTIVITIES	48.53
Germany	3.43	PG	27.99
Italy	0.93	YI	6.38
Japan (1)	31.25	LTF	12.01
Switzerland	0.69	STF	0.20
UK	1.63	CDA	1.55
USA	9.50	Awardees Annual Meetings and other program activities	0.31
European Union	4.08	HFSP Journal	0.09
INTEREST AND CAPITAL GAIN (estimate)	0.70		
COMMITTED FUNDS FROM FY 2003	54.23	COMMITTED FUNDS BEYOND FY 2004	56.59
PG	26.87	PG	29.74
YI	7.25	YI	5.29
LTF	13.46	LTF	14.93
CDA	6.65	CDA	6.63
POSITIVE BALANCE AT END FY 2003	3.19		
Building (estimate at end of FY 2004)	2.92		
TOTAL RESOURCES (+60 kUSD in kind from Japan)	115.47	TOTAL EXPENDITURES	109.27
GRAND TOTAL	115.47	BALANCE (positive) GRAND TOTAL	6.20 115.47

(1) : Amount in JPY, but contribution budgeted and paid in USD (60 kUSD in kind to add)

### 4. Exposure of HFSP funding capacity to exchange rate fluctuations :

HFSP is an international program whose funding capacity may be affected by fluctuations in the exchange rate. As an example, one USD could «buy» 1.20 EUR at the end of 2002 but only 0.75 EUR two years later. If HFSP's income had been exclusively in USD, the Program's funding capacity would have been seriously affected. A good indicator of HFSP's exposure to the exchange rate risk is the ratio between funds committed by HFSP in various major currencies and contributions received in these currencies. A ratio inferior to one indicates a shortage of funds in a given currency and exposure to currency conversion risk.

By definition, Research Grants and Career Development Awards are committed in USD (the actual payment can be made in a different currency if more convenient for the awardee, but the amount transferred is the countervalue of a given amount in USD, at the exchange rate applicable at the time of payment, and the awardee bears the exchange rate risk, positive or negative). On the other hand, Long-Term Fellowship stipends are usually committed in the currency of the host country.

The balance between amounts committed and received in FY 2004 is given in Table 3-10a and confirms HFSP's relatively low exposure to variations in the exchange rate in most currencies, the most significant shortage in absolute value being in USD for 1.7 million USD.

This estimate of HFSP's relative protection from exchange rate variations is however theoretical and depends on contributions being paid early, that is, before awardees payments are due. For example, several important contributions in EUR were received at the end of FY 2004 and USD had to be sold at a low rate in order to honour earlier commitments in EUR. The opportunity cost was estimated at several Long-Term Fellowships.

A more complete picture of the currency flow is given in Table 3-10b that shows actual payments during FY 2004, including grants committed in USD, but paid in a different currency at the awardees request.

Table 3-10

a) Balance between commitment in currencies and contributions received in FY 2004

<i>in million LC</i>	<i>CAD</i>	<i>CHF</i>	<i>EUR</i>	<i>GBP</i>	<i>JPY</i>	<i>USD</i>
RG (PG+YI)						34.37
LTF	0.21	0.99	2.22	0.85	19.93	6.75
CDA						1.55
Secretariat			3.10			
Total committed in FY 2004	0.21	0.99	5.32	0.85	19.93	42.67
Contributions received in FY 2004	0.20	0.87	8.30	0.91	0	40.95
Ratio contributions / commitments	95%	88%	167%	107%	0%	96%

b) Balance between actual payments in currencies and contributions received during FY 2004

<i>Payments in million LC</i>	<i>CAD</i>	<i>CHF</i>	<i>EUR</i>	<i>GBP</i>	<i>JPY</i>	<i>USD</i>
RG (PG +YI)	0.14	1.00	8.11	0.78	0.00	22.85
LTF+STF+CDA	0.22	0.99	2.57	0.86	19.93	8.15
Secretariat			3.10			
Grand Total	0.36	1.99	13.78	1.64	19.93	31.00

## 5. Budget for FY 2005 (1 April 2005 – 31 March 2006)

The budget for FY 2005 was based on several considerations summarised below :

- Financial framework of the Intergovernmental Conference in Berne held in June 2004: for the first time an IGC Communiqué provided an indicative three-year budgetary plan, proposed as a way to achieve the target level set for FY 2007 (Table 2 of the Communiqué in Annex 1). This budgetary plan established in USD, gave direction and served as a basis for establishing an operational plan that could be used by Board members for their own budgeting purposes in local currencies. This required more than the simple application of an exchange rate. One possible approach was presented to the Finance Committee and the Board in March 2005 (see Annex 4). It was used as a guideline for FY 2005 contributions in different currencies.

- New MSP's: Australia and the Republic of Korea joined HFSP in 2004, and will pay their first contribution in FY 2005. In addition, 10 countries joined the European Union in 2004. The contribution level of the EU is expected to increase in proportion to their GDP.

Several initiatives were taken into account in the budget following their adoption at the Board meeting in March 2004:

- A 5% increase in the Long-Term Fellowship stipend was agreed in principle<sup>7</sup> to compensate for increases in the cost of living since the last adjustment in FY 2002. This adjustment is for a period of 3 years.

- The possibility for HFSP's Long-Term Fellows to take parental leave was introduced.

- The amount awarded in Young Investigator Grants was brought into line with Program Grants and based on the number of team members.

Other assumptions included the Scientific Review of HFSP requested by the Board and an audit of IT systems, as requested by HFSP's auditors (80 thousand EUR), costs associated with new MSPs (80 thousand EUR) and a tax increase of 180 thousand EUR, due to higher financial income. Other administrative expenses remain flat.

<sup>7</sup> This 5% increase is not systematic for all host countries. An adjustment for purchasing power parity is also applied so that living allowances in different host countries offer comparable living standards.

In October 2004, the Secretariat contacted MSPs through their Board members, asking for confirmation of their intended contribution for FY 2005. Japan, Switzerland and the USA responded and either confirmed their intention for FY 2005 or gave an estimate.

For those MSPs who did not respond, it was assumed that their contribution would match the amount indicated in the Berne IGC budgetary plan in local currency for FY 2005.

It is expected that this iterative approach will considerably improve the reliability of the planning process and ensure that a maximum of grants or fellowships are funded.

The resulting income and expenditure budget for FY 2005 is summarized in Table 3-11 in USD under the exchange rate assumptions indicated.

Income from contributions in USD should increase by 4.6 % to 56.97 million USD.

Administrative expenses before tax and depreciation increase for the reasons given above and represent 8 % of total expenditures in USD.

A budget of 100 thousand USD is set aside for a feasibility study of the HFSP Journal. A refundable loan of 600 thousand USD from HFSP to the Journal is provided for in the budget, subject to confirmation by the Board (decision of 33rd Board meeting). If approved, the refundable loan will be financed from financial income in FY 2004 (700 thousand USD).

27 Program Grants, 7 Young Investigator Grants, 101 Fellowships and 18 Career Development Awards will be funded in FY 2005.

**Table 3-11**  
HFSP Budget FY 2005 in USD

<i>RESOURCES</i>	<i>in million USD at budget rate</i>	<i>EXPENDITURE</i>	<i>in million USD at budget rate</i>
CONTRIBUTIONS	56.97	ADMINISTRATIVE EXPENSES	4.44
Australia	0.47	Provisions	0.26
Canada – confirmed	0.87		
France	2.23	PROGRAM ACTIVITIES	54.15
Germany	3.50	PG	29.39
Italy	1.69	YI	6.14
Japan - confirmed	31.25	LTF	14.48
Korea	0.55	CDA	2.94
Switzerland – confirmed	0.68	STF	0.20
UK	1.72	Awardees Annual Meetings	0.30
USA	9.50	HFSP Journal feasibility study	0.10
European Community	4.51	HFSP Journal refundable loan – to be confirmed	0.60
INTEREST AND CAPITAL GAIN (estimate)	1.50		
COMMITTED FUNDS FROM FY 2003	56.59	COMMITTED FUNDS BEYOND FY 2005 (in USD)	59.25
PG	29.74	PG	30.94
YI	5.29	YI	6.23
LTF	14.93	LTF	16.04
CDA	6.63	CDA	6.04
CARRY OVER END FY 2004	4.39		
Building at FY 2005 budget rate	2.75		
TOTAL INCOME (incl.60kUSD in kind)	122.26	TOTAL EXPENSES (incl.60 kUSD in kind)	118.16
		ANNUAL BALANCE	1.35
		Building purchase value at FY budget rate	2.75
<b>GRAND TOTAL</b>	<b>122.26</b>	<b>GRAND TOTAL</b>	<b>122.26</b>

FY 2005 budget rates (for one USD) : CAD = 1.30, CHF = 1.24, EUR = 0.80, GBP = 0.55, JPY = 108

## 6. HFSP0 Finance Committee

The Finance Committee was set up by decision of the Board in December 2000 to review and monitor the Organization's financial situation and management. It is chaired by Dr. Mark Bisby (Canada). Ordinary members of the Committee are Dr. Isabella Beretta (Switzerland), Mr. Kaoru Naito (Japan), Dr. Norka Ruiz-Bravo (USA) and Prof. Piergiorgio Strata (Italy). The Finance Committee met twice, before the 32nd Board Meeting in December 2004 and before the 33rd Board Meeting in March 2005.

## Acknowledgement

HFSP0 is grateful for the support of the following organizations in FY 2004:

Canada  
Canadian Institute of Health Research (CIHR)  
Natural Sciences and Engineering Research Council (NSERC)

France  
Ministère des Affaires Étrangères (MAE)  
Ministère de l'Éducation et de la Recherche (MER)  
Région Alsace  
Communauté Urbaine de Strasbourg (CUS)

Germany  
Bundesministerium für Bildung und Forschung (BMBF)

Italy  
Consiglio Nazionale delle Ricerche (CNR)

Japan  
Ministry for Economy, Trade and Industry (METI)  
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Switzerland  
Bundesamt für Bildung und Wissenschaft (BBW)

UK  
Biotechnology and Biological Sciences Research Council (BBSRC)  
Medical Research Council (MRC)

USA  
Department of Energy (DOE)  
National Aeronautics and Space Administration (NASA)  
National Institutes of Health (NIH)  
National Science Foundation (NSF)

European Union  
European Commission - Directorate General Research (DG Research);  
European Commission - Directorate General Information Society (DG INFSO)

## 4. Selection of Awardees

### 1. Selection procedures

Awardees starting their research work in FY 2005 were selected among the applications received. Advertisements were placed in the international scientific journals, *Science* and *Nature*, to solicit applications and the call for applications was publicized via the web sites or newsletters of relevant scientific societies. For the selection of **Research Grants** awards, a two-step review process was used. Guidelines and application forms for both the Letter of Intent (the first step) and for full applications (the second step) were provided on the web, and the submission and review of applications were entirely electronic.

The deadline for letters of intent was 31 March 2004. The letters of intent were initially screened on the basis of formal eligibility. Only a small number of letters of intent were rejected on these grounds. A second small group consisted of projects outside the scientific scope of the Program and, upon decision of the Chair of the Review Committee, were eliminated from the full review procedure. Each remaining Letter of Intent was evaluated by two Review Committee members. The top-scoring projects were examined by a Selection Committee consisting of present and past members of the Review Committees. The Selection Committee met on 28-30 June 2004, to discuss about one third of the original 719 submissions and following these discussions, 88 teams were invited to submit full applications. Teams that were not asked to submit full applications were given brief feedback concerning the selection procedure, the evaluation criteria and the general classification of their application. The deadline for submission of full applications was 15 September 2004. 86 teams submitted full applications. Each full application was evaluated by mail (external) reviewers who submitted a written report, and by two members of the Review

Committee for Research Grants. Scientific merit, innovation and interdisciplinarity were the most important criteria in the evaluation of the projects. Internationality, and especially intercontinentality, and the participation of researchers early in their careers also ranked highly, not only in the case of Young Investigator but also in Program Grant applications. The Young Investigators' applications were reviewed separately in the same manner as Program Grants.

The Review Committee met on 24-26 January 2005 in Strasbourg to discuss all 86 full applications. Both awardees and unsuccessful applicants received feedback from the committee in the form of a short summary.

The selection of **Fellowship** awardees was carried out entirely electronically during FY 2004. The deadline for submission of applications was 2 September 2004. Each application was sent for pre-scoring to two members of the Review Committee with the appropriate expertise. Each Review Committee member evaluated around 50-60 applications. The Secretariat then ranked the applications on the basis of this pre-scoring. During the Review Committee meeting, the top applications in this initial pre-scoring were discussed, scored and ranked, and the most highly qualified candidates were recommended for funding.

**Short-Term Fellowship** applications were evaluated throughout the year. Each application was examined by several external mail reviewers, the final decision being taken by the Chair of the Review Committee for Fellowships (a detailed list of FY 2004 Awardees is shown in Annex 9). The main review criteria for fellowships are the scientific originality and excellence of the proposal, the accomplishments and potential of the candidate, the quality of the host supervisor and of the host environment, and the training potential of the fellowship experience. The overall benefit of international, and especially intercontinental, exchange in the achievement of the aims of the research and the interdisciplinary aspect of the project are also important considerations.

The **Career Development Award (CDA)** was announced for the third time in FY 2004 and 47 applications were submitted for award year 2005. Each application was evaluated by two members of the Council as well as by external mail reviewers. The initial ranking resulted in a list for detailed discussion during the meeting of the Council on 1 March 2005. At this meeting outstanding applications were recommended for funding.

The final selection of awards was made by the Council and financial considerations were taken into account by the Board before the recommendations were approved.

## 2. Applications and Awards

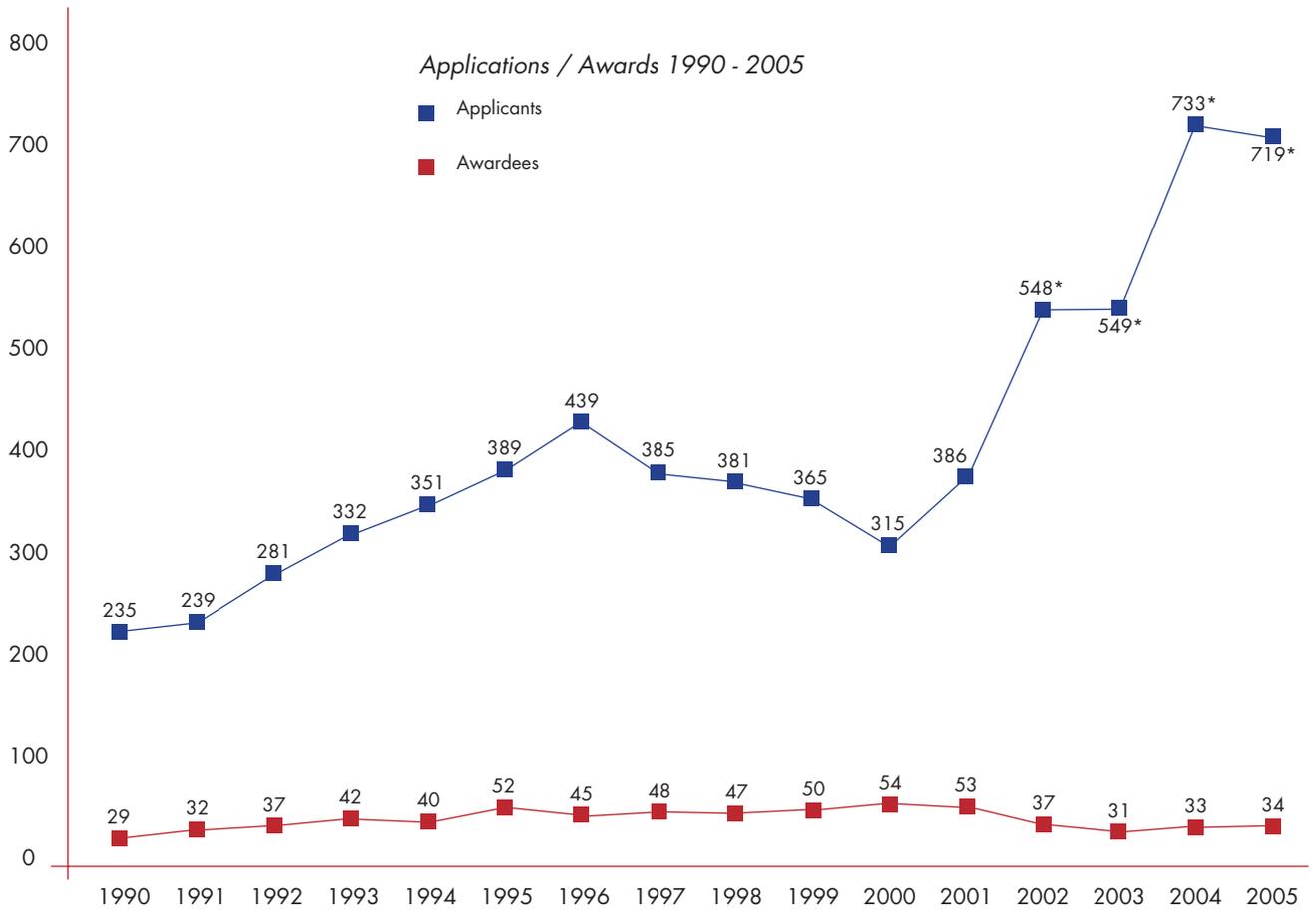
### A) Research Grants

Research Grants are awarded for projects of basic research carried out jointly by a team of scientists from at least two different countries. In addition to these basic criteria, emphasis is placed on the intercontinentality of the collaboration and on its interdisciplinary nature, and young investigators are especially encouraged to apply. Two types of grant were awarded in FY 2005: Young Investigator Grants for groups of young scientists within five years of obtaining an independent position; and Program Grants for scientists at any stage of their careers. Grants are awarded for periods of three years.

The numbers of awards since the beginning of the program are shown in Table 4-1. In award year 2005, out of 719 Letters of intent, 88 were invited to submit a full application, 86 of which were submitted, and 34 awards were made.

## Selection of Awardees

FIG. 4-1  
Research Grant applications and awards



\* based on Letters of Intent

## Selection of Awardees

Table 4-1  
Research Grant applications and awards each year

Award year	Number of		Success rate (%)	Total cost in their 1st year (USD million)
	Applications	Awards		
1990	235	29	12.3	7.67
1991	239	32	13.4	8.07
1992	281	37	13.2	8.07
1993	332	42	12.7	9.62
1994	351	40	11.4	9.30
1995	389	52	13.4	9.81
1996	439	45	10.3	10.32
1997	385	48	12.5	10.56
1998	381	47	12.3	10.56
1999	365	50	13.7	11.10
2000	315	54	17.1	12.50
2001	386	53	13.7	13.25
<b>Total</b>	<b>4098</b>	<b>529</b>	<b>12.9</b>	

Award year	Letters of Intent	Full applications invited	Awards	Success rate (%)	Total cost in their 1st year (USD million)
2002	548	72	37	51.4*	12.35
2003	549	80	31	39*	10.85
2004	733	67	33	49.2*	11.75
2005	719	88	34	39.5*	12.75
<b>Total</b>			<b>664**</b>		

\* based on full applications received

\*\* Grand total of awards (1990-2005)

Table 4-2  
Gender distribution in award year 2005

		Letter of Intent		Invited	
		Program	Young	Program	Young
Female	No. Scientists	305	90	35	13
	%	15.4	25.2	14.1	22.0
Male	No. Scientists	1662	267	214	46
	%	84.2	74.8	85.9	78.0
<b>Total</b>	No. Scientists	1974*	357	249	59

\* 7 information refused

The distribution of female scientists in awarded applications is the following:

	Total	Female	% Female (2004)	Female PI (2004)		
Program	96	19	19.8	10.2	7	3
Young	21	3	14.3	16.7	1	1
<b>Total</b>	<b>117</b>	<b>22</b>	<b>18.8</b>	<b>11.3</b>	<b>8</b>	<b>4</b>

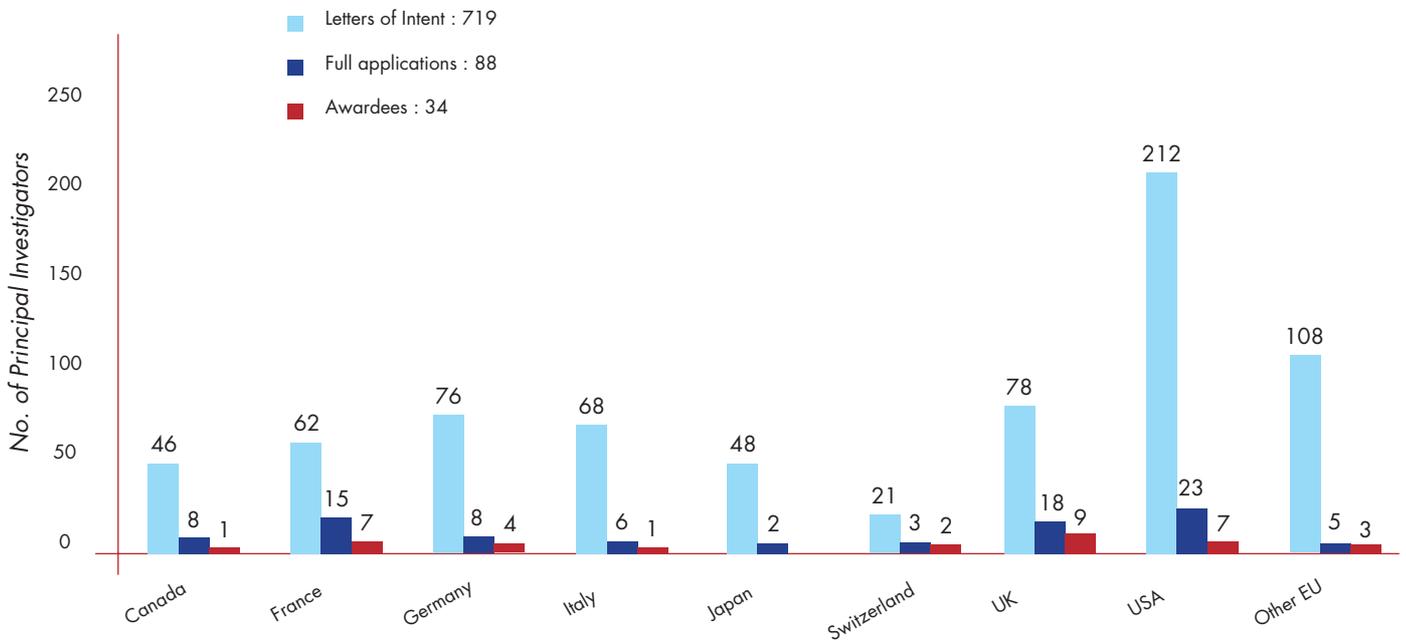
## Selection of Awardees

**Distribution of awards per country** (Figs. 4-2, 4-3, Table 4-3) Fig 4-2 shows the distribution of the Principal Investigators for the 2005 awards among various countries and Fig. 4-3 shows the total number of scientists in different countries participating in the international teams. The largest number of applications came from Principle Investigators in the USA and one quarter of successful applicants (all team members) were working in the USA.

### Interdisciplinarity in Research Grants

The Research Grant program continues to attract excellent teams including scientists from outside the life sciences. A summary of trends since 2001 is given in Chapter 2.

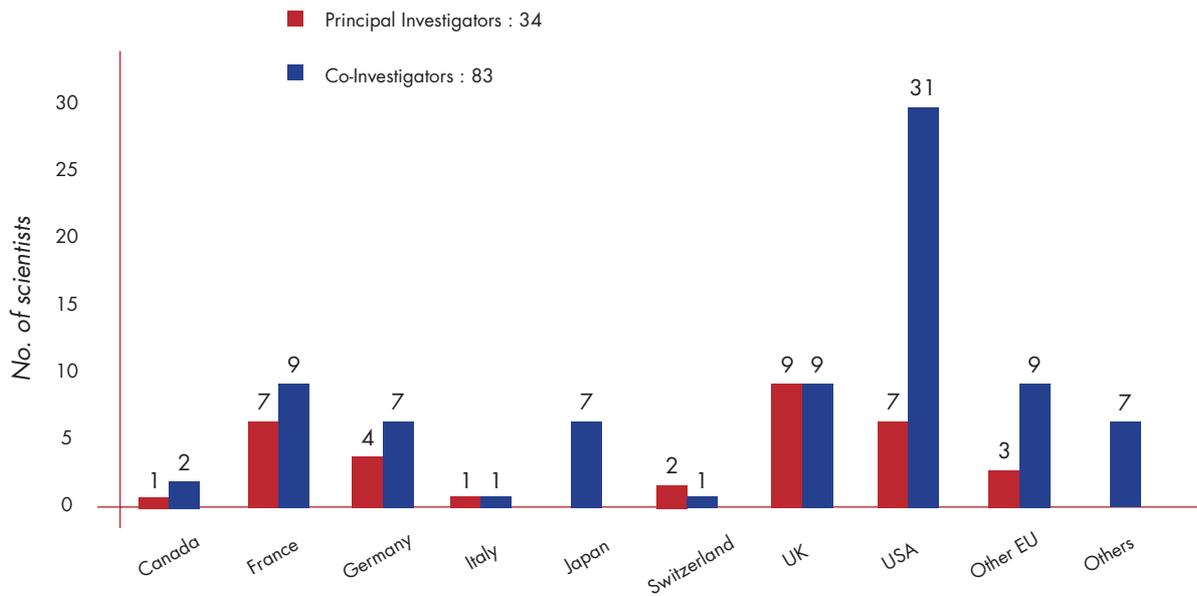
**FIG. 4-2**  
Countries in which Principal Investigators are working



*Other EU, Letters of intent: 5 Austria, 7 Belgium, 7 Denmark, 9 Finland, 8 Greece, 3 Ireland, 19 The Netherlands, 2 Portugal, 20 Spain, 28 Sweden*  
*Other EU, Full applications: 1 The Netherlands, 1 Spain, 3 Sweden*  
*Other EU, Awardees: 1 The Netherlands, 2 Sweden*

## Selection of Awardees

FIG. 4-3  
Countries in which awardees are working



Principal investigators:

Other EU: 1 The Netherlands, 2 Sweden

Co-investigators:

Other EU: 1 Belgium, 2 Denmark, 1 Ireland, 1 Luxembourg, 1 The Netherlands, 1 Portugal, 1 Spain, 1 Sweden

Others: 1 India, 5 Israel, 1 Russia

TABLE 4-3

All applicants and awardees listed by country of institution

	Letter of Intent			Invited			Awardees		
	Program	Young	Total	Program	Young	Total	Program	Young	Total
Canada	88	17	105	15	1	16	3	0	3
France	151	26	177	34	3	37	16	0	16
Germany	170	35	205	19	7	26	8	3	11
Italy	126	20	146	9	5	14	1	1	2
Japan	221	33	254	23	3	26	7	0	7
Switzerland	47	10	57	6	2	8	2	1	3
UK	187	31	218	34	9	43	12	6	18
USA	502	119	621	63	19	82	30	8	38
Other EU	267(a)	40(a)	307	25(b)	5(b)	30	11(c)	1(c)	12
Others	215(a')	26(a')	241	21(b')	5(b')	26	6(c')	1(c')	7
Totals	1974	357	2331	249	59	308	96	21	117

(a) Others from EU Letter of Intent

Program: 11 Austria, 26 Belgium, 21 Denmark, 16 Finland, 17 Greece, 10 Ireland, 3 Luxembourg, 61 The Netherlands, 9 Portugal, 38 Spain, 55 Sweden

Young: 3 Austria, 1 Belgium, 3 Denmark, 6 Finland, 3 Greece, 1 Ireland, 8 The Netherlands, 1 Portugal, 8 Spain, 6 Sweden

(b) Others from EU Invited

Program: 1 Austria, 2 Belgium, 4 Denmark, 1 Finland, 1 Luxembourg, 5 The Netherlands, 1 Portugal, 2 Spain, 8 Sweden

Young: 1 Denmark, 1 Finland, 1 Ireland, 2 Spain

(c) Others from EU Awardees

Program: 1 Belgium, 2 Denmark, 1 Luxembourg, 2 The Netherlands, 1 Portugal, 1 Spain, 3 Sweden

Young: 1 Ireland

(a') Others Letter of Intent

Program: 8 Argentina, 1 Armenia, 43 Australia, 1 Belarus, 2 Brazil, 3 Bulgaria, 1 Burkina Faso, 3 Chile, 8 China, 1 Columbia, 1 Croatia, 1 Cuba, 6 Czech Republic, 1 Estonia, 1 Georgia, 4 Hong Kong, 8 Hungary, 11 India, 1 Indonesia, 46 Israel, 5 Republic of Korea, 5 Mexico, 9 New Zealand, 2 Norway, 12 Poland, 7 Russia, 9 Singapore, 4 Slovakia, 3 Slovenia, 4 South Africa, 1 Thailand, 1 Uganda, 1 Ukraine, 1 Uruguay

Young: 1 Argentina, 3 Australia, 1 Brazil, 2 China, 2 Czech Republic, 1 Estonia, 5 Hungary, 2 India, 6 Israel, 2 New Zealand, 1 Russia

(b') Others Invited

Program: 3 Australia, 1 Brazil, 2 India, 9 Israel, 1 Poland, 2 Russia, 1 Singapore, 1 Slovakia, 1 South Africa

Young: 1 Hungary, 3 Israel, 1 Russia

(c') Others Awardees

Program: 1 India, 4 Israel, 1 Russia

Young: 1 Israel

## B) Long-Term and Cross-Disciplinary Fellowships

The aim of the Fellowship program is to provide postdoctoral training opportunities for talented young scientists in the world's best laboratories and to support the mobility of young scientists between countries. Long-Term Fellowships are intended to encourage young researchers with a background in the life sciences to seek additional research expertise and training in other fields (a detailed list of FY 2004 Awardees is shown in Annex 8).

The new Cross-Disciplinary Fellowship program (starting in award year 2005) encourages young researchers with training e.g. in physics or chemistry to use the fellowship for training in the life sciences. Upon completion of the fellowship, these well-trained scientists are expected to be able to promote truly interdisciplinary research in the life sciences.

Long-Term and Cross-Disciplinary Fellowships provide support for three years. The third year of support can either be used in the host laboratory or for a final postdoctoral year of training in a laboratory in the home country. Under the latter circumstance, support can be delayed for up to two years.

Awards approved by the Board and numbers of fellows funded since the beginning of the program are shown in Table 4.4 (historical record of awards), while Figures 4.4 and 4.5 give an overview of the distribution of nationalities and host countries of applicants and awardees in FY 2004. In March 2005, the Board recommended 101 awards. For the 2005 competition, awardees needed to be within three years of receiving their Ph.D. at the time of application. They were expected to have at least one first author publication and to be moving into a new area of research in order to broaden their scientific experience. They may not have worked in the host institution for more than 12 months at the start of their fellowship.

Of the 674 applications for award year 2005, 40% of the applications were made by female candidates.

## Selection of Awardees

**TABLE 4-4**  
Fellowship applications and awards each year.

Award year	Number of		Success rate %	Female awardees	
	Applications	Awards*		Number	%
1990	202	77	38.1	20	26%
1991	348	98	28.2	24	24%
1992	499	125 (128)	25.7	31	25%
1993	555	147 (152)	27.4	41	28%
1994	613	159 (160)	26.1	44	28%
1995	711	160	22.5	50	31%
1996	846	160	18.9	38	24%
1997	807	160	19.8	40	25%
1998	704	160	22.7	57	36%
1999	682	159 (160)	23.5	41	26%
2000	652	144 (160)	24.5	44	31%
2001	665	81	12.2	23	28%
2002	567	94	16.6	27	29%
2003	639	90	14.1	29	32%
2004	673	90	13.4	29	32%
2005**	674	101	15.0	26***	26%
<b>Total</b>	<b>9837</b>	<b>2005 (2031)</b>	<b>20.6</b>	<b>564</b>	<b>28%</b>

\* Figures in brackets correspond to the number of awards approved by the Board if they differ from the actual number of funded fellows.

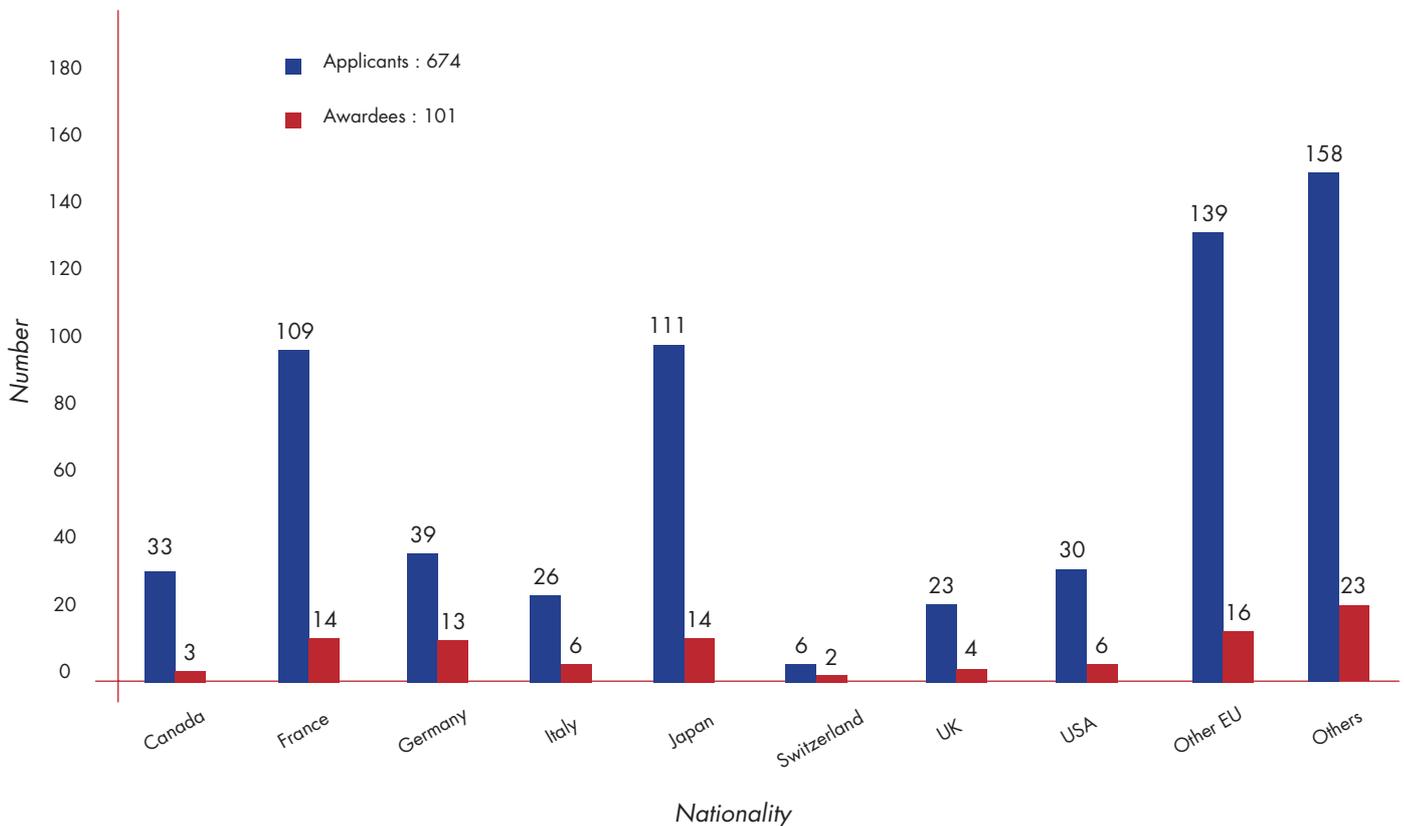
\*\* In 2005, 609 Long-Term Fellowships and 65 Cross-Disciplinary Fellowships were reviewed. 89 Long-Term Fellowships and 12 Cross-Disciplinary Fellowships were awarded.

\*\*\* This figure correspond to the awards approved by the Board in March 2005 and may be subject to change. Out of the 89 Long-Term Fellowship awardees, 25 (28%) are female awardees and 64 (72%) male awardees. Out of the 12 Cross-Disciplinary Fellowships awardees, 1 (8%) is a female awardee and 11 (92%) are male awardees.

## Selection of Awardees

FIG. 4-4

Nationality of reviewed Fellowship applicants and awardees (as of March 2005)



*Nationalities of other EU applicants:*

7 Austria, 8 Belgium, 3 Czech Republic, 6 Denmark, 1 Estonia, 3 Finland, 10 Greece, 6 Hungary, 6 Ireland, 8 Poland, 5 Portugal, 2 Slovakia, 1 Slovenia, 45 Spain, 15 Sweden, 13 The Netherlands

*Nationalities of other EU awardees:*

1 Austria, 2 Denmark, 1 Finland, 3 Greece, 1 Hungary, 1 Ireland, 1 Poland, 1 Portugal, 3 Spain, 1 Sweden, 1 The Netherlands

*Nationalities of other applicants:*

6 Argentina, 14 Australia, 2 Bangladesh, 4 Brazil, 3 Bulgaria, 2 Chile, 9 China, 1 Colombia, 4 Croatia, 1 Egypt, 1 Eritrea, 1 Ethiopia, 1 Honduras, 2 Iceland, 17 India, 1 Iran, 36 Israel, 1 Jordan, 6 Republic of Korea, 5 Mexico, 1 Morocco, 2 Myanmar, 1 New Zealand, 2 Nigeria, 3 Norway, 1 Pakistan, 2 Romania, 2 Russia, 3 Taiwan China, 2 Turkey, 1 Uzbekistan, 21 dual nationality

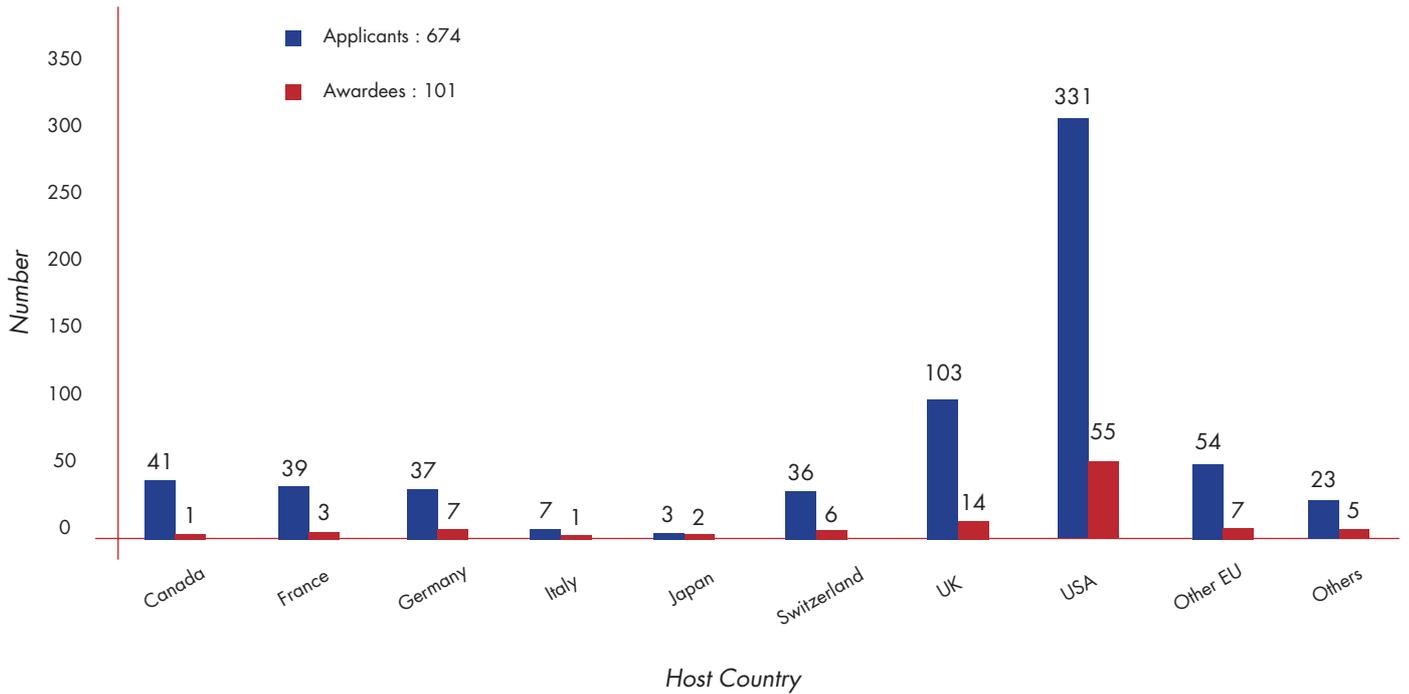
*Nationalities of other awardees:*

1 Argentina, 2 Australia, 1 Brazil, 1 China, 1 India, 9 Israel, 1 Romania, 1 Taiwan China, 6 dual nationality (Austria/Israel, Canada/Greece, Canada/USA, Denmark/UK, Germany/UK, Israel/The Netherlands)

## Selection of Awardees

FIG. 4-5

Host country of reviewed Fellowship applicants and awardees (as of March 2005)



*Applicants going to other EU host countries:*

*4 Austria, 3 Belgium, 4 Denmark, 1 Finland, 1 Ireland, 2 Portugal, 14 Spain, 13 Sweden, 12 The Netherlands*

*Awardees going to other EU host countries:*

*1 Denmark, 1 Spain, 2 Sweden, 3 The Netherlands*

*Applicants going to other host countries:*

*19 Australia, 1 Israel, 1 New Zealand, 1 Norway, 1 Singapore*

*Awardees going to other host countries:*

*4 Australia, 1 Israel*

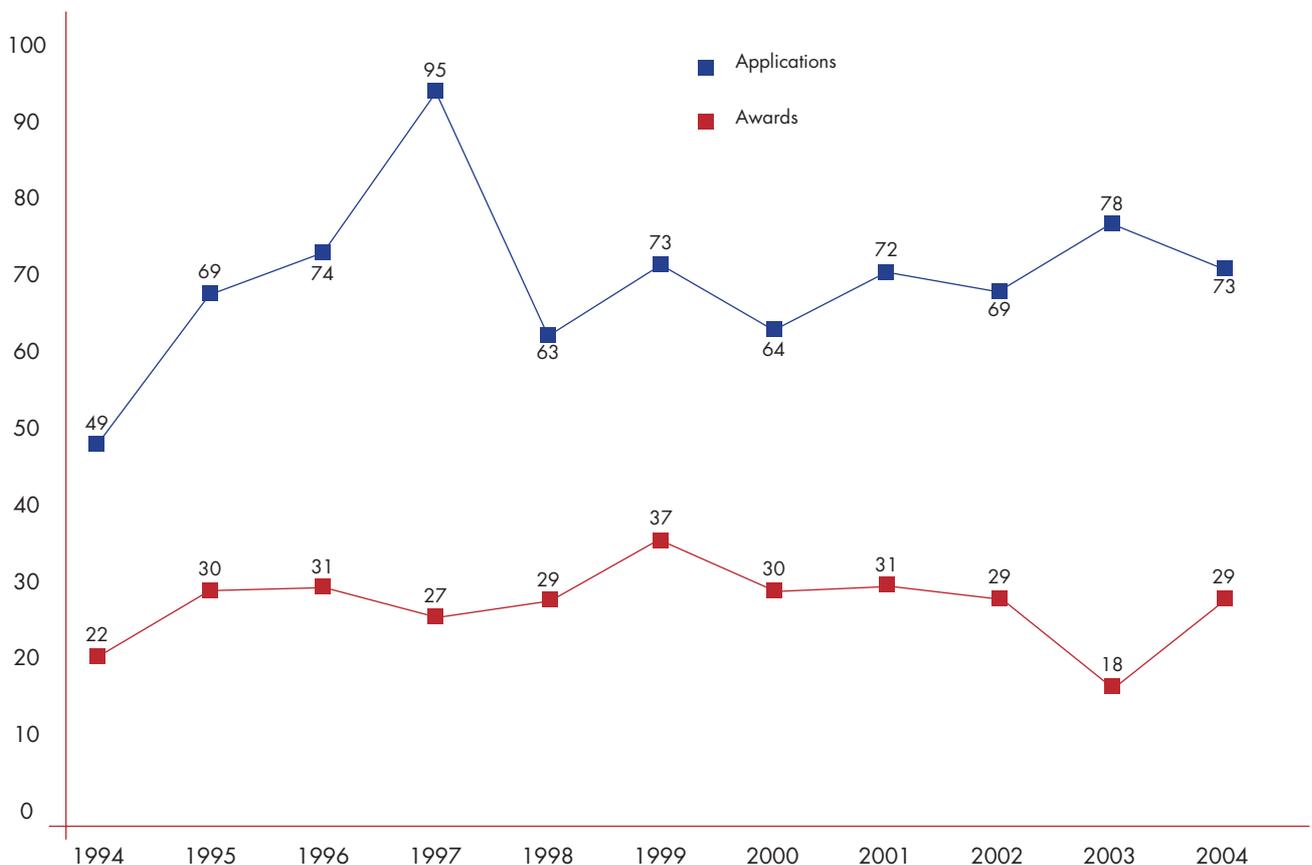
## Selection of Awardees

### C) Short-Term Fellowships

Short-Term Fellowships are intended for researchers who wish to spend two weeks to three months working in a laboratory of their own choice in another country. The objective of the fellowship is to enable successful applicants to develop new techniques or to use instruments or techniques not available in their home country. Preference is given to young researchers early in their careers. Applicants are expected to have a doctoral degree or equivalent research experience. Applications can be submitted throughout the year, but the date of application, selection and award might not occur in the same fiscal year. Therefore information about success rates may lag behind the reporting of other program activities.

FIG. 4-6

Number of eligible Short-Term Fellowship applications received and awards made each fiscal year



The number of applications and awards made in each fiscal year since 1994 is shown in Fig. 4-6. In fiscal years 1990 to 1993, a total of 89 short-term fellowships were awarded. The exact number of eligible applications is not available for this period, as in 1989 and 1990 only awardees were registered in the database.

**TABLE 4-5**

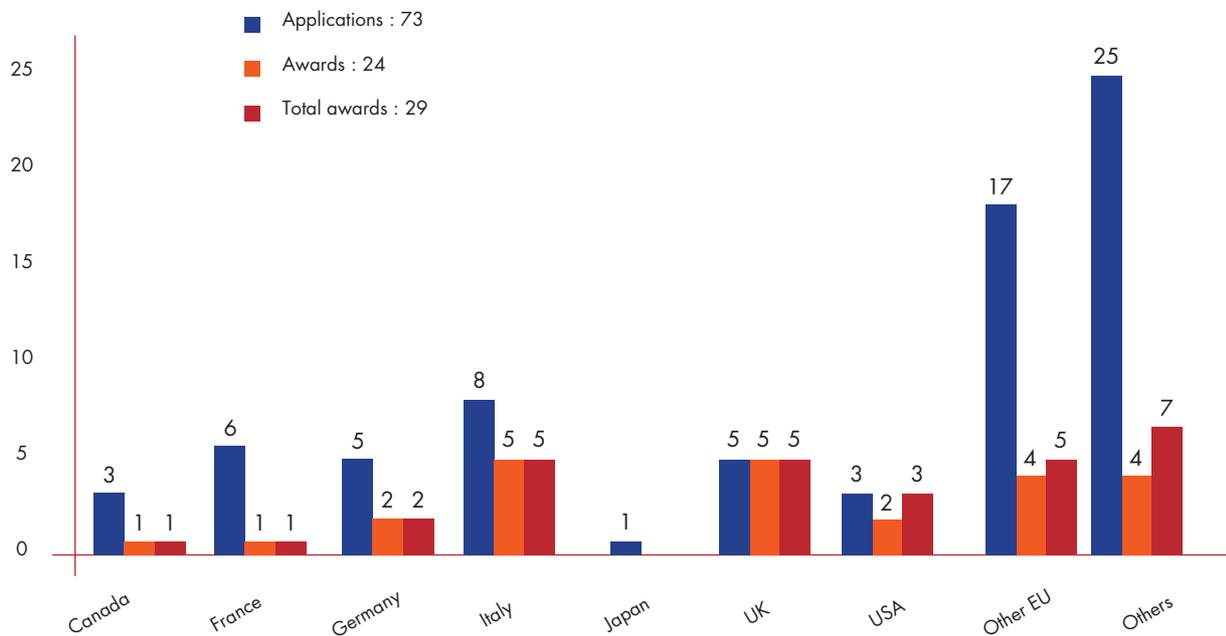
Gender of Short-Term Fellowship awardees

Award year	<i>Female awardees</i>		<i>Male awardees</i>	
	Number	%	Number	%
1990-1993	24	27	65	73
1994	6	27.3	16	72.7
1995	8	26.7	22	73.3
1996	11	35.5	20	64.5
1997	9	33.3	18	66.7
1998	14	48.3	15	51.7
1999	18	48.6	19	51.4
2000	14	46.7	16	53.3
2001	11	35.5	20	64.5
2002	11	37.9	18	62.1
2003	8	44.4	10	55.6
2004	10	34.5	19	65.5
<b>TOTAL</b>	<b>144</b>	<b>35.8</b>	<b>258</b>	<b>64.2</b>

## Selection of Awardees

Fig. 4-7 and 4-8 show the applicants' and awardees' nationalities and their host countries. The total number of awardees includes five applicants from FY 2003 who have been awarded the fellowship in FY 2004.

**FIG. 4-7**  
Nationality of Short-Term Fellowship applicants and awardees in FY 2004



*Nationalities of other EU applicants:*

3 Austria, 1 Belgium, 1 Denmark, 2 Ireland, 1 Poland, 5 Spain, 2 Sweden, 2 The Netherlands

*Nationalities of other EU awardees:*

1 Austria, 1 Ireland, 1 Spain, 1 The Netherlands

*Nationalities of total other EU awardees:*

1 Austria, 1 Ireland, 2 Spain, 1 The Netherlands

*Nationalities of other applicants:*

4 Argentina, 3 Australia, 1 Bangladesh, 1 Belarus, 2 Brazil, 2 China, 1 Colombia, 3 India, 1 Indonesia, 1 Mongolia, 1 Nicaragua, 2 Russia, 1 Sudan, 1 Ukraine, 1 dual nationality (Italy/UK)

*Nationalities of other awardees:*

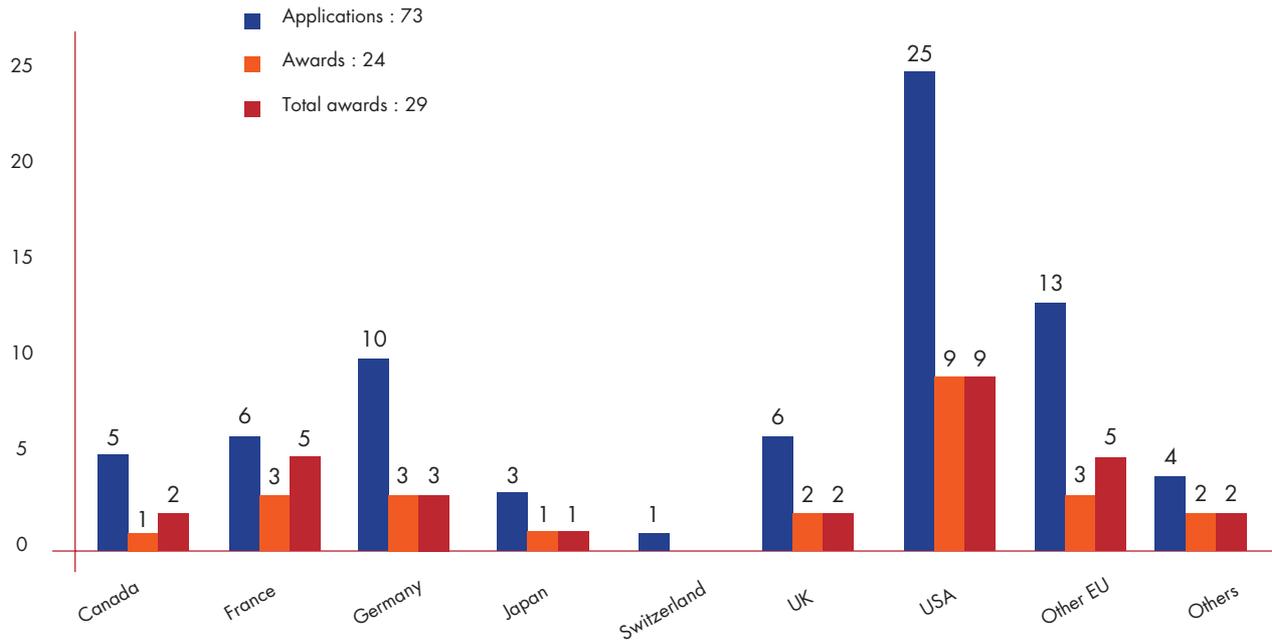
1 Argentina, 1 Australia, 1 China, 1 dual nationality (Italy/UK)

*Nationalities of total other awardees:*

2 Argentina, 1 Australia, 1 China, 1 India, 1 Russia, 1 dual nationality (Italy/UK)

## Selection of Awardees

FIG. 4-8  
Host country of Short-Term Fellowship applicants and awardees of FY 2004



*Applicants going to other EU host countries:*  
1 Austria, 2 Denmark, 1 Finland, 1 Hungary, 1 Slovakia, 4 Spain, 1 Sweden,  
2 The Netherlands

*Awardees going to other EU host countries:*  
1 Spain, 2 The Netherlands

*Total awardees going to other EU host countries:*  
2 Spain, 1 Sweden, 2 The Netherlands

*Applicants going to other host countries:*  
3 Australia, 1 New Zealand

*Awardees going to other host countries:*  
1 Australia, 1 New Zealand

*Total awardees going to other host countries:*  
1 Australia, 1 New Zealand

## Selection of Awardees

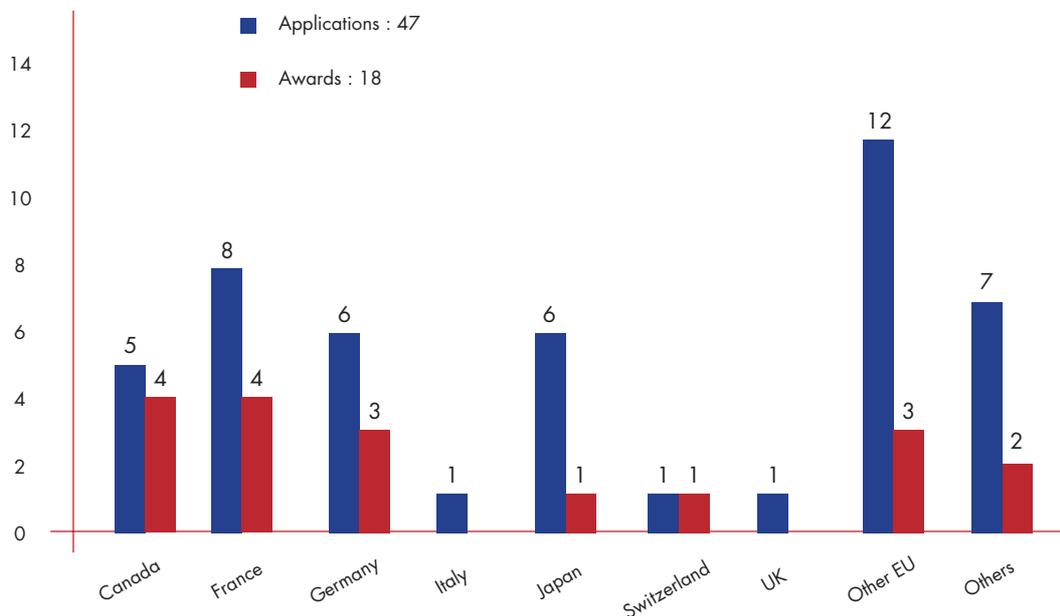
### D) Career Development Awards

The Career Development Award (CDA), implemented in FY 2002, aims to enable former Long-Term fellows to establish their own independent research team after return to the home country. The careful selection of former Long-Term Fellows includes consideration of the interdisciplinary character of their projects and extends the scientific strategy of HFSP/O into the CDA program. CDA awardees will have the opportunity to intensify international collaboration and experimental endeavours in emerging subjects in the life sciences by drawing on their experience of other disciplines gained during the Long-Term Fellowship (a detailed list of FY 2004 Awardees is shown in Annex 10).

The number of applications from former fellows of award years 2000, 2001 and 2002 has increased to 47 compared to award year 2004 (41 applications). During the Council meeting, 15 applications were recommended for funding. 3 additional applications were placed on the reserve list and recommended for funding if funds were available. The Board approved the funding of all 18 applications.

Of the 47 applications for award year 2005, 17% of the applications were made by female candidates.

FIG. 4-10  
Nationality of 2005 CDA applicants and awardees



Nationality of other EU applicants: 2 Belgium, 1 Greece, 1 Portugal, 5 Spain, 3 The Netherlands

Nationality of other EU awardees: 1 Belgium, 1 Spain, 1 The Netherlands

Nationality of other applicants: 1 Argentina, 1 Australia, 5 Israel

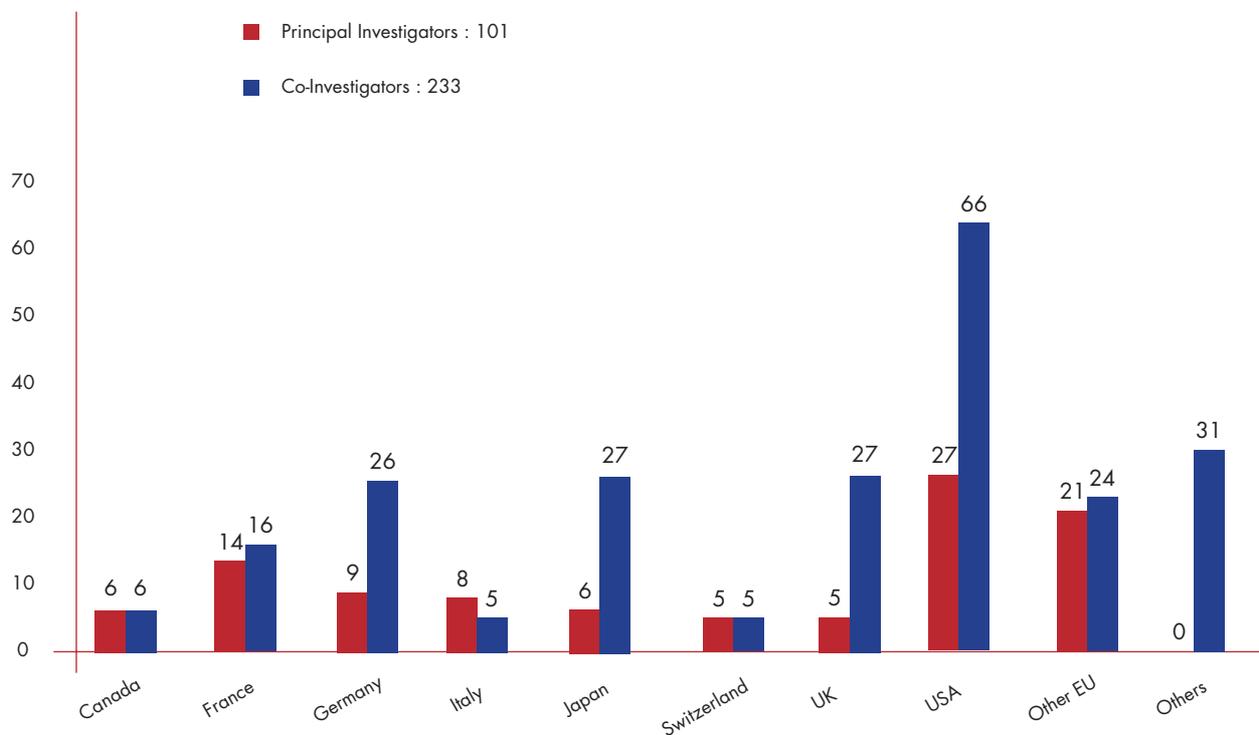
Nationality of other awardees: 1 Argentina, 1 Israel

### 5. Awards paid during FY 2004

During FY 2004, a total amount of 48.13 million USD was paid to the awardees.

Research Grants were paid to 101 teams, in a total amount of 34.37 million USD. The distribution of recipients according to the starting time was 37 teams for 2002, 31 for 2003 and 33 for 2004. A list of Award Year 2004 awardees is given in Annex 7. The distribution of these awardees by country is shown in Fig. 5-1.

FIG. 5-1 Research Grants awardees paid during FY 2004 by country



Principal investigators:

Other EU: 1 Austria, 1 Belgium, 2 Denmark, 2 Greece, 1 Ireland, 6 The Netherlands, 4 Spain, 4 Sweden

Co-investigators

Other EU: 2 Austria, 4 Belgium, 2 Denmark, 9 The Netherlands, 5 Spain, 2 Sweden

Others: 5 Australia, 1 Brazil, 1 China, 1 Hungary, 1 India, 15 Israel, 2 Norway, 3 Russia, 1 South Africa, 1 Uganda

## Awards paid

**Long-Term Fellowships** were paid to **296 fellows**, for a total amount of **12.01 million USD**. The distribution of recipients according to the starting time is shown in Table 5.1

TABLE 5-1

Award Year 2000 Fellows	7 fellows
Award Year 2001 Fellows	30 fellows
Award Year 2002 Fellows	85 fellows
Award Year 2003 Fellows	86 fellows
Award Year 2004 Fellows	88 fellows

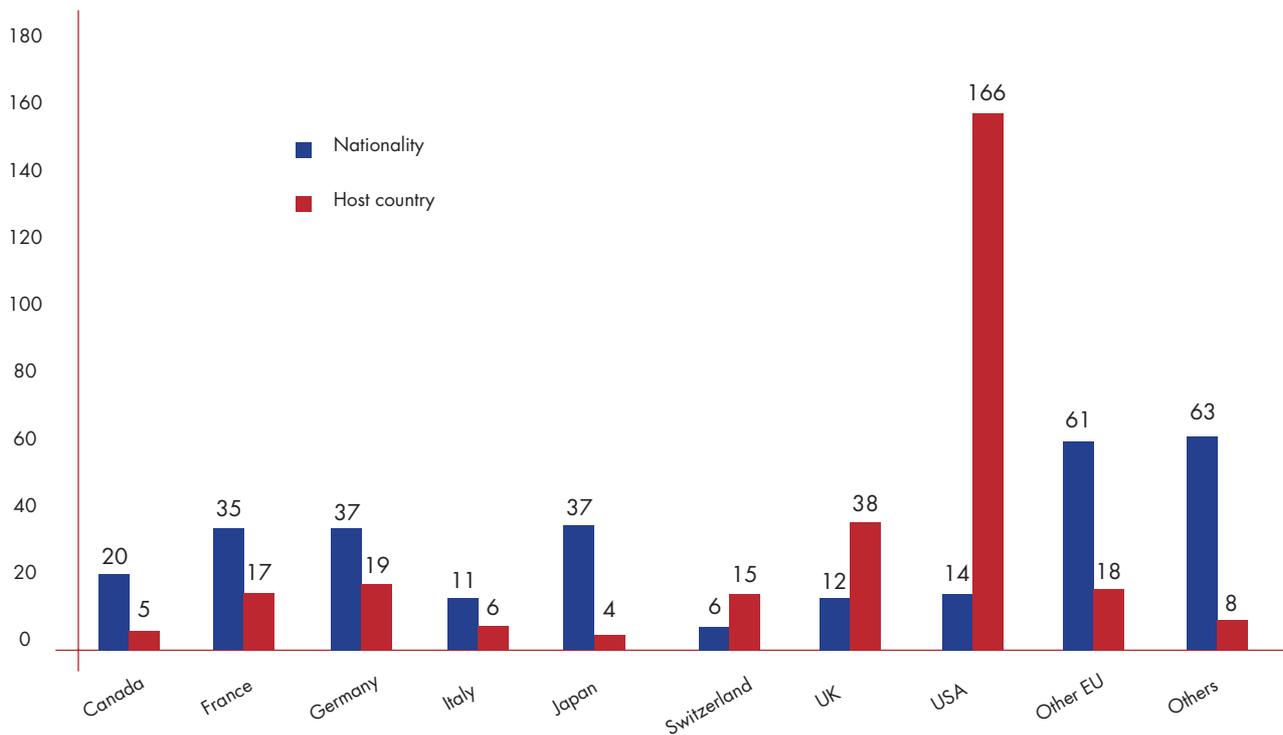
The distribution of these fellows by nationality and host country is shown in Fig. 5.2.

**Short-Term Fellowships** were paid to **28 fellows**, for a total amount of **0.20 million USD**. The distribution of these fellows by nationality and host country is shown in Fig. 5-3.

**Career Development Awards** were paid to **25 awardees**, at a total of **1.55 million USD**. The distribution of these awardees by nationality is shown in Fig. 5-4.

FIG. 5-2

Long-Term Fellowship awardees (2000, 2001, 2002, 2003 and 2004) paid during FY 2004 by nationality and host country



*Awardees from other EU countries:*

4 Austria, 7 Belgium, 1 Czech Republic, 4 Finland, 6 Greece, 3 Hungary, 1 Ireland, 2 Portugal, 1 Slovakia, 18 Spain, 1 Sweden, 13 The Netherlands

*Awardees from other countries:*

6 Argentina, 4 Australia, 1 Brazil, 3 China, 1 Costa Rica, 1 Hong Kong, 1 Iceland, 3 India, 21 Israel, 1 Jamaica, 7 Republic of Korea, 1 Malaysia, 2 Mexico, 1 Romania, 1 Russia, 1 Turkey, 1 Yugoslavia, 7 dual nationalities (Canada/The Netherlands, Canada/USA, France/USA, Israel/The Netherlands, Israel/USA, Italy/Switzerland, Italy/UK)

*Awardees going to other EU host countries:*

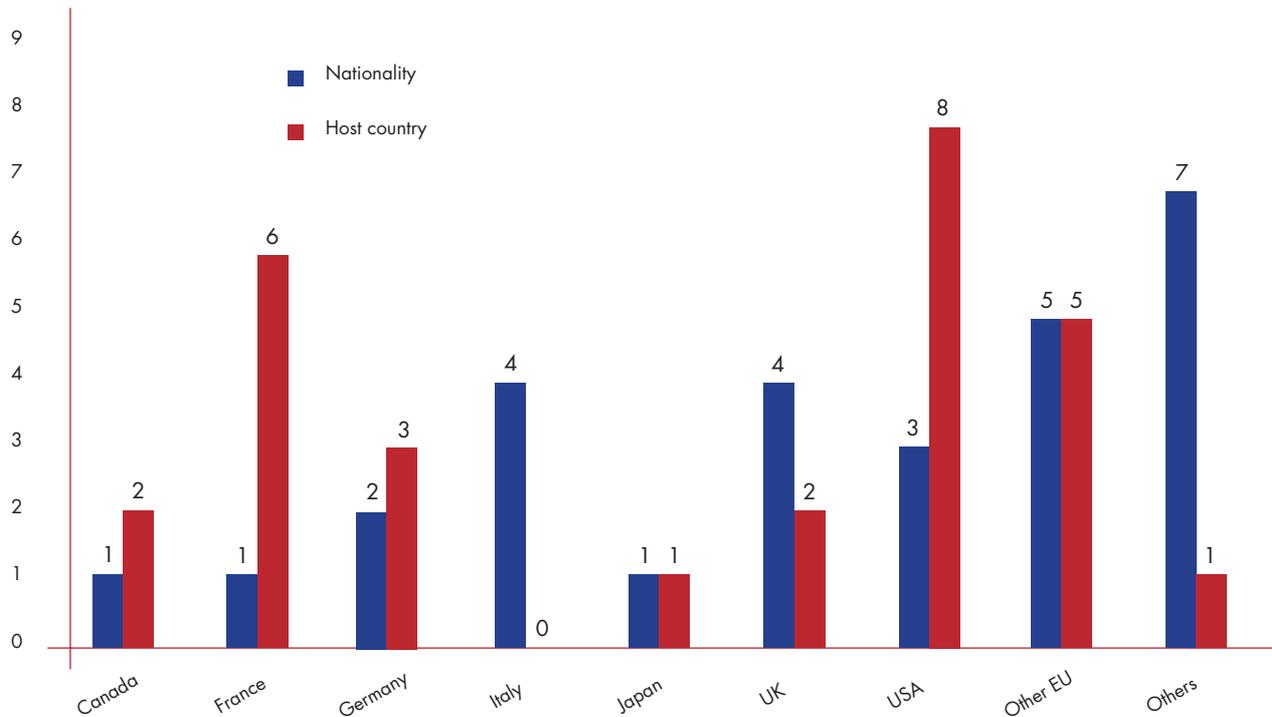
2 Austria, 2 Finland, 1 Greece, 4 Spain, 1 Sweden, 8 The Netherlands

*Awardees going to other host countries:*

1 Argentina, 3 Australia, 1 Brazil, 1 Iceland, 2 Israel

FIG. 5-3

Short-Term Fellowship awardees paid during FY 2004 by nationality and host country



*Awardees from other EU countries:*

1 Austria, 1 Ireland, 2 Spain, 1 The Netherlands

*Awardees from other countries:*

1 Argentina, 1 Australia, 1 China, 1 India, 1 Russia,  
2 dual nationality (1 Italy/UK, 1 New Zealand/UK)

*Awardees going to other EU host countries:*

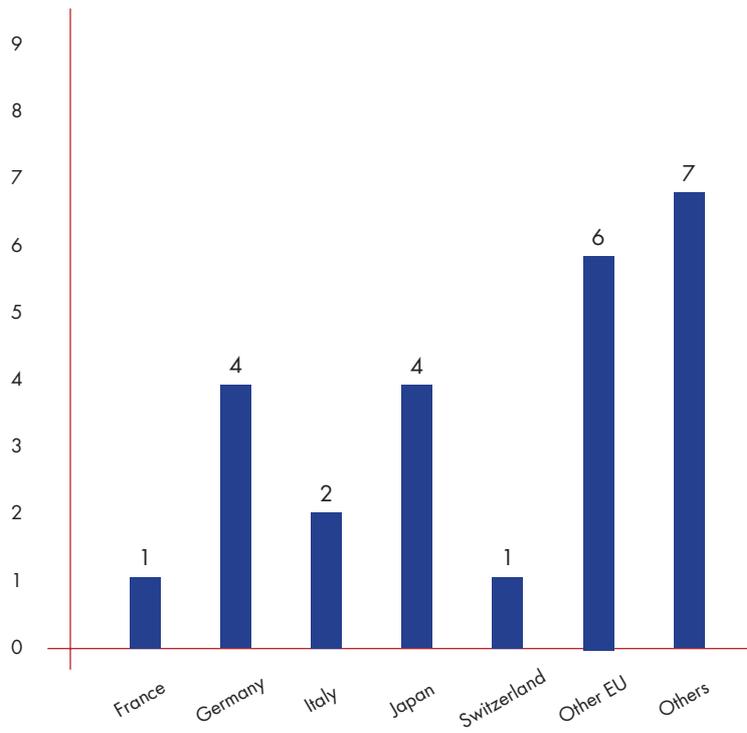
2 Spain, 1 Sweden, 2 The Netherlands

*Awardees going to other host countries:*

1 Australia

FIG. 5-4

CDA awardees paid during FY 2004 by nationality



Awardees from other EU countries:

1 Belgium, 1 Denmark, 2 Spain, 2 The Netherlands

Awardees from other countries:

1 China, 4 Israel, 1 Israel/USA, 1 The Republic of Korea



# Program Administration

April 2004 - March 2005

## 6. Board of Trustees

### Meetings of the Board of Trustees

During FY 2004, the 32nd and 33rd meetings of the Board of Trustees were held in Strasbourg.

The major decisions were as follows:

#### 32nd Board meeting (6 December 2004)

- Membership of Australia and the Republic of Korea was unanimously approved.
- The nomination of Dr. Beretta as Vice Chair of the Board, succeeding Dr. Schlüter, was unanimously approved.
- The Board unanimously agreed to an exemption from Article 8, Section 2, of the HFSP Statutes in order to extend the term of the current Secretary General, Dr. Wiesel, for three years.
- A request from European fellows to be able to return to any country in Europe for the CDA award on account of unequal opportunities throughout Europe was rejected. The requirement to repatriate was retained to stimulate science in the home country.
- Parental leave of up to 3 months with the extension of the fellowship by the same amount, with immediate effect for all future babies, was approved.
- It was agreed that negotiations with publishers as regards the establishment of a scientific journal should continue.
- In accordance with the recommendation of the Berne Communiqué, the Board agreed to a review of the Program. The review should be complete by the 5th Intergovernmental Conference in 2007.

#### 33rd Board meeting (21 March 2005)\*

- On the recommendation of the Council of Scientists, the Board agreed to make the following awards: 7 Young Investigator Grants, 27 Program Grants, 12 Cross-Disciplinary Fellowships, 89 Long-Term Fellowships, 18 Career Development Awards
- The Board also approved the recommendation that reviewers should be asked explicitly to assess the performance of fellowship applicants in relation to the opportunities they had received.
- The program activity plan and the budget proposal for FY 2005 were approved.
- The working group, established to explore the feasibility of launching a journal for the promotion of basic research in the life sciences, was requested to continue work on the project.
- The working group, established to oversee the HFSP review, was asked to refine the terms of reference for the review and select an independent external consultant.
- The Board gratefully accepted the French offer to host the 6th Awardees Annual meeting in Paris. The meeting will take place at the Institut Pasteur, Paris, on 2-5 July, 2006.
- It was agreed that there should be no attempt to reduce the number of trustees attending Board meetings. All trustees will continue to be invited to all Board meetings.
- It was agreed that the President of the Board should write a letter in support of the International Federation of Mouse Resources (IFMR), encouraging the initiative to coordinate mouse mutant archives around the world.
- Trustees agreed to the nomination of the following auditors for a term of one year:
  - Mr. Michael Payne, National Institutes of Health, USA
  - Mr. Patrick Pierrat, SEGEC Audit et Conseil, France
  - Mr. Yoshiaki Sato, Ministry of Economy, Trade and Industry (METI), Japan

\* The draft minutes of the 33rd meeting have not yet been approved

Board of Trustees  
(1 April 2004 - 31 March 2005)

*President:*

**Prof. Masao ITO**, Brain Science Institute, Riken, Japan.

*Australia*

**Ms. Sarojini MARTIN**, National Health and Medical Research Council, Canberra

**Ms. Suzanne NORTHCOTT**, National Health and Medical Research Council, Canberra

*Canada*

**Dr. Mark BISBY**, Canadian Institutes of Health Research, Ottawa

**Mr. Stephen SHUGAR**, Natural Sciences and Engineering Research Council, Ottawa

*France*

**Mr. Antoine GRASSIN**, Ministry of Foreign Affairs, Paris

**Dr. Eric KARSENTI**, EMBL, Heidelberg, Germany

*Germany*

**Dr. Ulrich SCHLÜTER**, Research Centre Jülich

**Dr. Christoph SCHNEIDER**, Deutsche Forschungsgemeinschaft, Bonn

*Italy*

**Prof. Piergiorgio STRATA**, University of Turin

**Prof. Glauco TOCCHINI - VALENTINI**, Italian National Research Council, Rome

*Japan*

**Mr. Kaoru NAITO**, Nuclear Material Control Centre, Tokyo

*Republic of Korea*

**Dr. Jung-Hye KIM**, Ministry of Science and Technology, Seoul.

**Prof. Yoo-Hun SUH**, Seoul National University, Seoul.

*Switzerland*

**Dr. Isabella BERETTA**, Federal Office for Education and Science, Berne

**Prof. Pierre MAGISTRETTI**, University of Lausanne

*UK*

**Mrs. Jane LEE**, Medical Research Council, London

**Dr. Doug YARROW**, Biotechnology and Biological Sciences Research Council, Swindon

*USA*

**Dr. Mary CLUTTER**, National Science Foundation, Arlington

**Dr. Joe HARFORD**, National Cancer Institute, National Institutes of Health, Bethesda (until July 2004)

**Dr. Norka RUIZ-BRAVO**, National Institutes of Health, Bethesda (from July 2004)

*European Union*

**Dr. Octavi QUINTANA - TRIAS**, Directorate General Research, EC, Brussels

**Dr. Thierry VAN DER PYL**, Directorate General Information Society, EC, Brussels

*Honorary Member*

**Dr. Kozo IIZUKA**, President, Japan Association for Metrology Promotion, Tokyo, Japan

## 7. Council of Scientists

### 22nd Council meeting (1 March 2005)

Prof. Joachim Seelig was elected Chair of the Council. Dr. Helen Berman and Prof. Reiko Kuroda were elected Vice-chairs.

Dr. Jean-François Joanny was elected Council delegate to the Research Grant Review Committee and Prof. Joachim Seelig was elected Council delegate to the Fellowship Review Committee

Recommendations to the Board are detailed in Chapter 6.

### Members of the Council of Scientists (1 April 2004 – 31 March 2005)

#### *Chair:*

**Joachim SEELIG**, University of Basel, Switzerland

#### *Australia*

**Judith BLACK**, University of Sydney

**John MATTICK**, University of Queensland

#### *Canada*

**Lorne BABIUK**, University of Saskatchewan, Saskatoon

**Philip BRANTON**, McGill University, Montreal

#### *France*

**Marie-France CARLIER**, CNRS, Gif-sur-Yvette (from November 2004)

**Pierre FERRIER**, INSERM-CNRS de Marseille-Luminy, Marseille (until November 2004)

**Jean-François JOANNY**, Institut Curie, Paris

#### *Germany*

**Rudi BALLING**, Gesellschaft für Biotechnologische Forschung, Braunschweig

**Heinrich BETZ**, Max Planck Institute for Brain Research Neurochemistry, Frankfurt (until October 2004)

**Hannah MONYER**, University of Heidelberg (from October 2004)

#### *Italy*

**Silvano RIVA**, CNR, Pavia

**Giacomo RIZZOLATTI**, University of Parma

#### *Japan*

**Nobutaka HIROKAWA**, Vice-chair, University of Tokyo (until January 2005)

**Reiko KURODA**, University of Tokyo (from January 2005)

**Toshio YANAGIDA**, University of Osaka

#### *Republic of Korea*

**Seong Eon RYU**, Korea Research Institute of Bioscience and Biotechnology Korea Research Institute of Bioscience and Biotechnology, Daejeon

**Hee-Sup SHIN**, Korea Institute of Science and Technology, Seoul

#### *Switzerland*

**Ernst HAFEN**, University of Zurich

#### *UK*

**Alan FERSHT**, University of Cambridge (from January 2005)

**Christopher LAMB**, John Innes Centre, Norwich

**Michael J. OWEN**, University of Wales College of Medicine, Cardiff (until January 2005)

**USA**

**Helen BERMAN**, Rutgers, State University of New Jersey, Piscataway

**Linda GRIFFITH**, Massachusetts Institute of Technology, Cambridge (from February 2005)

**Viola VOGEL**, University of Washington (until February 2005)

**European Union**

**Carlos BELMONTE**, Institute for Neuroscience, Alicante, Spain (until January 2005)

**Guy ORBAN**, Catholic University of Leuven, Belgium (from February 2005)

**Luis SERRANO**, EMBL, Heidelberg, Germany (from February 2005)

**Christine VAN BROECKHOVEN**, University of Antwerp, Belgium (until January 2005)

**Honorary Member:**

**Masao ITO**, Brain Science Institute, Riken, Japan

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## 8. Review Committees

The Review Committees met in January 2005 to consider the awards to be made in March 2005.

### Members of the Review Committee for Research Grants

#### *Australia*

Perry BARTLETT, University of Queensland

#### *Canada*

Paul LASKO, McGill University, Montreal

#### *France*

Burkhard BECHINGER, Louis Pasteur University, Strasbourg

Daniel CHOQUET, University of Bordeaux

Michael SEAGAR, University of Marseille

#### *Germany*

Fritz ECKSTEIN, Max Planck Institute for Experimental Medicine, Göttingen

Jonathon HOWARD, Max Planck Institute for Molecular Cell Biology and Genetics, Dresden

#### *Italy*

Lawrence BANKS, International Centre for Genetic Engineering and Biotechnology, Trieste

Antonio MALGAROLI, Università Vita-Salute San Raffaele, Milan

Nadia ROSENTHAL, EMBL, Monterotondo, Rome

#### *Japan*

Hiroshi HANDA, Tokyo Institute of Technology

Minoru KIMURA, Kyoto Prefectural University of Medicine

Satoru MIYANO, University of Tokyo

#### *Republic of Korea*

Young-Joon KIM, Yonsei University, Seoul

#### *Switzerland*

Susan GASSER, Friedrich Miescher Institute for Biomedical Research, Basel

#### *UK*

Dimitris KIOUSSIS, National Institute for Medical Research, London

Catherine MARTIN, John Innes Centre, Norwich

Anthony WATTS, University of Oxford

#### *USA*

William BIALEK, Princeton University, New Jersey

Frances BRODSKY, University of California San Francisco

Angela GRONENBORN, National Institutes of Health, Bethesda

Marcelo MAGNASCO, The Rockefeller University, New York

#### *European Union*

Ryszard KIERZEK, Polish Academy of Sciences, Poznan, Poland

#### *Delegate from Council of Scientists*

Jean-François JOANNY, Institut Curie, Paris, France

## Review Committees

## Members of the Review Committee for Fellowships

*Canada*

Douglas MUNOZ, Queen's University, Kingston  
 Alan PETERSON, McGill University, Montreal

*France*

Emiliana BORRELLI, IGBMC, Illkirch  
 Bruno GOUD, Institut Curie, Paris  
 Ioan NEGRUTIU, Ecole Normale Supérieure de Lyon

*Germany*

Nils BROSE, Max Planck Institute for Experimental Medicine, Göttingen  
 Elisa IZAURREALDE, EMBL, Heidelberg  
 Frank JÜLICHER, Max-Planck Institute for the Physics of Complex Systems, Dresden

*Italy*

Marco BIANCHI, San Raffaele Scientific Institute, Milan  
 Kristian HELIN, European Institute of Oncology, Milan

*Japan*

Shin'ichi ISHIWATA, University of Waseda, Tokyo  
 Ko SAKAI, University of Tsukuba

*Switzerland*

Jean GRUENBERG, University of Geneva  
 Antonius G. ROLINK, University of Basel

*UK*

Jonathon PINES, University of Cambridge  
 Daniela RHODES, Medical Research Council, Cambridge  
 Antonio SIMEONE, King's College London  
 Bonnie Ann WALLACE, University of London

*USA*

Lawrence KATZ, Duke University Medical Center, Durham  
 Michel NUSSENZWEIG, The Rockefeller University, New York  
 Norbert PERRIMON, Harvard Medical School, Boston  
 Peter WOLYNES, University of California, San Diego

*European Union*

Barry DICKSON, Institute of Molecular Biotechnology, Vienna, Austria  
 Jørn HOUNSGAARD, University of Copenhagen, Denmark  
 Montserrat PAGES, CSIC, Barcelona, Spain  
 Gunter SCHNEIDER, Karolinska Institute, Stockholm, Sweden

*Delegate from Council of Scientists*

Joachim SEELIG, University of Basel, Switzerland

### 9. Secretariat

At the end of FY 2004, the number of staff members was 15.

FIG 9-1:  
HFSP0 SECRETARIAT



TABLE 9-2  
Composition of staff members at the end of FY 2004

Grade <sup>1</sup>	A7	A6	A5	A3	A2	B5	B4	B3	B2	B1	Total
Number of Members	1(1)	1(1)	4(3)	2(2)	1(1)	2(2)	3(3)	1(1)	(0)	(0)	15(14) <sup>2</sup>

<sup>1</sup> The grades are based on those in the OECD Staff Manual.

<sup>2</sup> Figures in parentheses are the numbers at the end of FY 2003.

# Annexes\*

1. Joint Communiqués for the HFSP (Berne in 2004 and Berlin in 2002)
2. Statutes of the International HFSP Organization
3. Guidelines for the Participation of New Members in the HFSP
4. Three-Year Budgetary Plan
5. History of the Program
6. Program Activity Plan for FY 2005
7. Research Grant awards made in 2004
8. Long-Term Fellowships awarded in 2004
9. Short-Term Fellowships awarded in 2004
10. Career Development Awards made in 2004
11. Awardees Annual Meeting
12. Public Relations Activities in FY 2004

\*For previous documents or updated lists of awardees, see HFSP website ([www.hfsp.org](http://www.hfsp.org))

# Joint Communiqués for the Human Frontier Science Program

## 4th Intergovernmental Conference, Berne 2004

### Paragraph 1 Continuation of HFSP

Representatives of the Management Supporting Parties of Canada, France, Germany, Italy, Japan, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America and of the European Union met on 25 June 2004 in Berne to review the progress made and discuss the future of the Human Frontier Science Program (HFSP). Conscious of the important role of the Program in promoting interdisciplinary and international cooperation in basic life sciences among excellent researchers, they agreed enthusiastically to the continuation of HFSP on the basis of the following understanding:

### Paragraph 2 Strengthening governance

a) The representatives supported the recommendation of the Working Group that consideration of international status be discontinued and instead agreed to strengthen the governance of HFSP by requesting the Board of Trustees (Board) to review the Statutes of the International Human Frontier Science Program Organization (HFSP/O). It is suggested that the IGC be renamed the HFSP International Conference (HFSP IC), that countries or international organizations be called "IC Members" and the HFSP IC be defined as having the responsibility to establish the overall strategy of HFSP and the total funding target.

b) So as to facilitate the operations of HFSP/O, it is expected that the French government will address the issue of the duration of the contracts of senior HFSP/O staff to allow a regular turnover.

### Paragraph 3 Indicative three-year budgetary plan and target levels for FY 2005- 2007

a) The representatives appreciate the continued efforts made to enhance the value and visibility of HFSP by the introduction of new initiatives and hold the achievements of HFSP in high regard. Taking into account past achievements and the projected scope and financial requirements of future HFSP activities, the representatives agreed to adopt an indicative three-year budgetary plan (FY2005-2007) as the fundamental framework for establishing the annual budget of HFSP/O (Table 1). It is expected that this new framework will provide target levels for contributions by IC members. One approach is given in Table 2.

b) Within the framework of an indicative three-year budgetary plan, an annual increase is recommended to maintain the program as set out in Table 1. In an effort to achieve a balance between the contributions of Japan and the other IC members, Japan is exempt from this annual increase. At the same time, this plan is formulated in the strong expectation that Japan will maintain its current high level of support and that the other IC members will make every effort to achieve the target levels.

### Paragraph 4 New membership

a) The representatives welcomed membership of the Republic of Korea as approved by the Board at its meeting in March, 2004. Membership of the Republic of Korea will become effective after the completion of the necessary procedures.

b) Following discussion of membership of HFSP, the representatives agreed that IC Members should be urged to take steps to encourage potential candidates to take up membership of HFSP.

c) It is noted that the contribution of new members is to be added to the total amount contributed by the current IC Members.

#### **Paragraph 5 Review of HFSP**

a) HFSP will continue to be reviewed by various means, including regular audits and reports. The representatives agreed that a further external review, including an evaluation of the impact of the new initiatives, should be complete by the meeting of HFSP IC in 2007.

b) The Board is asked to establish guidelines for the external review and to evaluate it on completion.

---

#### **Paragraph 6 Next meeting**

It was decided that the next meeting of HFSP IC will be held in Canada in 2007, unless unforeseen circumstances make it necessary to hold a meeting before that date.

Table 1

Indicative three-year budgetary plan: 4% annual increase of HFSP0 budget

The Program's awarding capacity would be maintained, taking into account the following:

- 1) the alignment of Young Investigator Grants with Program Grants  
(decision in FY 2003 implemented in FY 2005)
- 2) the adjustment of 5 % for inflation in FY 2005.

HFSP IC Members	CONTRIBUTION			
	2004 (based on Washington distribution reference)	Annual Contributions (USD)		
		2005	2006	2007
Japan	30 000 000	30 000 000	30 000 000	30 000 000
Japan as % of Total	57%	54%	52%	50%
Non Japanese IC Members	23 000 000	25 129 990	27 457 234	30 000 000
Annual growth non Japanese IC Members		9.3%	9.3%	9.3%
Total contribution FY	53 000 000	55 129 990	57 427 234	60 000 000
Annual growth Total		4.02%	4.22%	4.43%

ASSUMPTIONS ON EXPENDITURE				
«3 year plan» assumptions for Program activities budget (kUSD)*	2004	2005	2006	2007
Secretariat	3 505	3 546	3 587	3 630
Program Grants (total cost per new award)**	1 155	1 155	1 155	1 155
Young Investigators Grants (total cost per new award)**	750	<u>1 155</u>	1 155	1 155
Long Term Fellowships (total cost per new award)**	138	<u>146</u>	146	146
Short Term Fellowships (per annum)	200	200	200	200
Career Development Awards (total cost per new award)	180 ***	180	180	180
Workshops / Annual Awardees meeting (per annum)	300	300	300	300

\* Figures underlined highlight year of change  
 \*\* over 3 years  
 \*\*\* over 2 or 3 years

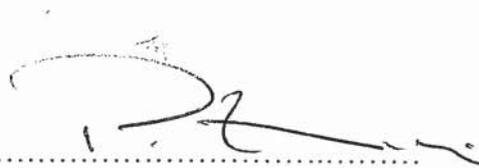
NEW AWARDS PER YEAR				
Number of new awards per year	2004	2005	2006	2007
Program Grants	27	27	27	27
Young Investigators Grants	6	6	6	8
Long Term Fellowships	90	92	98	100
Career Development Awards	17	17	18	18

Table 2

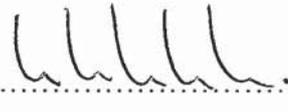
Target levels for contributions by IC members FY 2005-2007: one approach

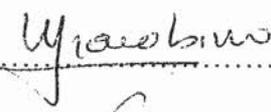
HFSP IC Members	2004 (based on Washington distribution reference)	Annual Contributions (USD)		
		2005	2006	2007
Canada	800 000	874 087	955 034	1 043 478
Switzerland	450 000	491 674	537 207	586 957
Germany	3 200 000	3 496 346	3 820 137	4 173 913
European Union	3 000 000	3 277 825	3 581 378	3 913 043
France	2 050 000	2 239 847	2 447 275	2 673 913
Italy	1 550 000	1 693 543	1 850 379	2 021 739
Japan	30 000 000	30 000 000	30 000 000	30 000 000
Japan as % of Total	57%	54%	52%	50%
UK	1 500 000	1 638 912	1 790 689	1 956 522
USA	10 450 000	11 417 756	12 457 134	13 630 435
Total contribution FY	53 000 000	55 129 990	57 457 234	60 000 000
Annual growth non Japanese IC Members		9.3%	9.3%	9.3%
Annual growth Total		4.02%	4.22%	4.43%

**JOINT COMMUNIQUÉ  
OF  
INTERGOVERNMENTAL CONFERENCE (IGC)  
ON  
HUMAN FRONTIER SCIENCE PROGRAM  
BERNE, 25 JUNE 2004**

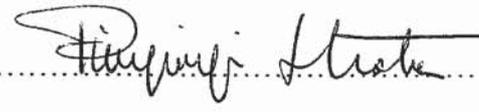
**The Chair of the Conference** Dr. Paul E. Zinsli ..... 

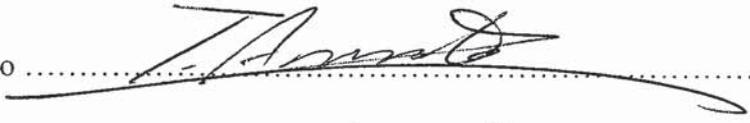
**Canada** Prof. Stephanie Atkinson ..... 

**European Union** Mr. Octavi Quintana Trias ..... 

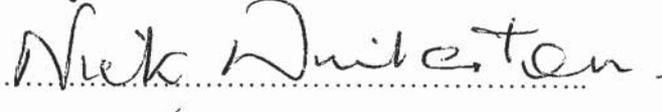
**France** Ms. Elisabeth Giacobino ..... 

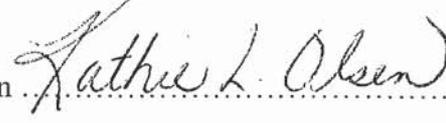
**Germany** Mr. Peter Lange ..... (for) 

**Italy** Prof. Piergiorgio Strata ..... 

**Japan** Mr. Tateo Arimoto ..... 

**Switzerland** Dr. Jean Pierre Ruder ..... 

**United Kingdom** Mr. Nick Winterton ..... 

**United States of America** Dr. Kathie Olsen ..... 

### 3rd Intergovernmental Conference, Berlin 2002

#### Paragraph 1

Representatives of the Governments of Canada, France, Germany, Italy, Japan, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America and of the Commission of the European Communities (hereinafter referred to as "the representatives"), constituting the Management Support Parties (MSPs) for the Human Frontier Science Program (HFSP), met on 20-21 June 2002 in Berlin to review the progress made so far and discuss the future of the HFSP.

#### Paragraph 2

The HFSP is a multilateral science program that aims to contribute to the advancement of the frontiers of human knowledge by promoting, through intercontinental collaboration and training, fundamental research focused on the elucidation of the complex mechanisms of living organisms, to facilitate maximum use of the MSPs' scientific potential, and to allow the fullest possible use of the research results, taking into account bioethical considerations for the benefit of all humankind.

#### Paragraph 3

The HFSP was proposed by the Government of Japan at the Venice Economic Summit in June 1987. The other participants in the Economic Summit welcomed this initiative. The Program was further developed by international scientific committees composed of eminent scientists and experts from the seven Economic Summit countries, Switzerland and the European Community. Following the recommendations of these committees, intergovernmental meetings were held in June and July 1989 in Tokyo and Berlin respectively, in order to establish a framework for the implementation of the HFSP. At the Intergovernmental Conference held in Washington, D.C. in 1997, the representatives recommended the continued support of the Program for a further phase of five years, guided by a communiqué issued at the end of the conference.

#### Paragraph 4

In accordance with the 1997 communiqué, a scientific review of the Program was carried out in 2000. This was a follow-up to the previous evaluation in 1995/96 and addressed the impact of the Program. It was reported to the Board of Trustees (BoT) in March 2001. The conclusions of the review were very positive and emphasized in particular that:

- HFSP grant holders find the Program a unique source of support for inter-continental interdisciplinary research;
- New collaborations vital to the execution of the research are created and continue after the project;
- The Fellowship program is one of a number of outstanding programs;
- For both grants and fellowships, HFSP publications have citation performance well above the norm.

#### Paragraph 5

At the 2002 Intergovernmental Conference in Berlin, the representatives recognized that the scientific value of the HFSP warrants its continuation for a further phase of five years, with the following understandings.

#### Paragraph 6

Aims of the program: The aims, objectives, and mission of the Program will continue to be the provision of a unique and important contribution to fundamental research of the highest quality, based on international peer review. The representatives reaffirmed the value of the Program's emphasis on interdisciplinary science, encouragement of researchers early in their careers who are expected to play an important role in originating creative research, and international and especially intercontinental collaboration, including training and mobility. In this respect, new initiatives introduced such as the Young Investigators' Grants, and the Career Development Awards are particularly welcome.

## Annex 1

### Paragraph 7

Program activities - Research areas: The representatives noted that the Program had contributed to the advancement of the frontiers of human knowledge by supporting the elucidation of brain functions and of biological functions through molecular level approaches. The representatives also noted that it is desirable to combine these areas into one topic, "complex mechanisms of living organisms"; this recognises the increasing interdisciplinarity of research in the life sciences. The representatives also recommended that the Board of Trustees (BoT), in consultation with the Council of Scientists, review the Program to ensure that it continues to support research activities in which it has a unique contribution to offer.

### Paragraph 8

Program activities - Fellowships and grants: The representatives agreed that Program activities in the subject areas will continue to be Research Grants, Long and Short-Term Fellowships, and workshops which include annual awardees' meetings. Some of these initiatives are designed to enable talented young researchers to reach independence early in their careers.

### Paragraph 9

New membership: The representatives noted the importance of promoting new supporting parties for the further development of the international and collaborative nature of the Program. New Management Supporting Parties, for example from Asia, should be considered to achieve a better balance of MSPs among continents. The current MSPs will take active steps to expand the number of supporting members to participate in this unique, cutting-edge, global research fund. The BoT will be requested to consider and respond to an application for membership in a timely manner. The BoT is asked to reconsider the criteria for new memberships.

### Paragraph 10

Financing: The HFSP will continue to be supported by contributions from all MSPs. Unconditional financial contributions are preferred, although in kind contributions, consistent with the guidelines of the HFSP, are also welcome. Representatives welcomed the progress that had been made and reaffirmed the importance of achieving the goals offered in the 1997 communiqué. Representatives agreed that the new initiatives authorized by the BoT meeting in March 2000 required additional funding. They therefore agreed that the scientific value of the HFSP justifies a funding level of 60 million USD and stressed the urgency of attaining a funding level of this amount and an equal match in the amount contributed by Japan and other MSPs by 2004. The working group, established according to paragraph 12, is asked, on the basis of relevant criteria, to develop a financial scheme for contributions of non-Japanese MSP's, leading to an appropriate and fair burden sharing. In this respect, the chair of the IGC proposed that the working group takes into consideration additional criteria for an equitable allocation of burden. The IGC expects the working group to present its results on a new contribution formula by the end of February 2003. MSP's are asked to submit nominations for the working group to the chair of the working group by 1 August 2002. Members of the working group should be given a strong mandate by the respective MSP's.

### Paragraph 11

General structure: The HFSP Organization will maintain its present legal status as an international, non-governmental, non-profit association during the next phase. The government of France, Region Alsace and the city of Strasbourg will maintain the preferential treatment and privileges they have provided to the HFSP Organization and its employees. The BoT, whose members represent the MSPs, will continue to govern the Program in accordance with the Statutes and By-Laws of the HFSP. The representatives reaffirmed the important role that the BoT plays in overseeing the Program and urged all MSPs to ensure that they are represented on the BoT by members with appropriate decision making authority. Intergovernmental Conference (IGC) handles overall policy and makes ultimate decisions on important issues including the continuation of HFSP and the scope of the research it supports. The IGC consists of the representatives of MSPs, and is held in accordance with a communiqué of the previous IGC or at the request of the majority of the MSPs. MSPs should make a strong and sustained commitment to make it possible for HFSP to implement its activities effectively. For this purpose, various measures including feasibility of attaining international organization status or similar status for HFSP, and attaining international organization personnel status or similar status for HFSP personnel might be examined.

### Paragraph 12

Review and development of the Program: The Program will continue to be reviewed by various means, including regular reports. The representatives noted that the previous reviews reported in 1996 and 2001 clearly demonstrated the excellence of the Program and its continuing global importance. A further review of the effectiveness of the Program from a scientific viewpoint will be carried out. The necessity and timing of the next review will be discussed at the IGC meeting in 2004. Representatives agreed to establish a working group (WG) responsible to the IGC, logistically supported by the HFSP secretariat. The activity of the working group would be :

1. to examine the scope and development of HFSP's activities and the financial requirements,
2. to propose financial targets beyond 2004,
3. to study the feasibility of attaining international organization status or similar status for HFSP
4. to develop a strategy for expanding the number of supporting members

The results of the working group will be presented to the BoT and to MSP's.

### Paragraph 13

Next conference: The representatives of the MSPs decided that the next IGC meeting would be held in Switzerland in 2004. The IGC in 2004 would decide on overall policy regarding the scope of research supported, review the financial situation and set a new financial framework and review the success in attracting new MSPs.

# Statutes of the International HFSP Organization

## Article 1 Names, Status and Domicile

1. The International Human Frontier Science Program Organization (HFSP/O; hereinafter, "the Organization"), is an international non-governmental non profit association devoted to the promotion of basic research.

2. The seat of the Organization is in Strasbourg (France), "12, quai Saint-Jean". The registered seat of the Organization may be moved within the conurbation of Strasbourg by a decision of the Board of Trustees (Assemblée Générale) (see Article 6).

It is registered on the "Registre des Associations du Tribunal d'Instance de Strasbourg", and subject to Articles 21 to 79 of the local Civil Code, maintained valid through the law introducing French civil legislation of June 1, 1924.

## Article 2. Objectives of the Organization

1. The objectives of the Organization are to implement the Human Frontier Science Program (HFSP; hereinafter, «the Program»). This Program aims to promote, through international cooperation basic research focused on the elucidation of the sophisticated and complex mechanisms of living organisms and to make the fullest possible utilization of the research results for the benefit of all humankind, in accordance with the implementing scheme of the Program established by the Economic Summit member countries and the European Communities at the intergovernmental meeting held in Berlin (West) on July 26-28, 1989, and subsequently revised by the Original Members and Switzerland at the intergovernmental meeting held in Tokyo on January 21-22, 1992 (see Annex).

2. The resources of the Organization shall be used solely to achieve the objectives set out in this Article.

3. The Organization shall abstain from any political and commercial activities.

## Article 3. Activities of the Organization

The Organization conducts the following activities:

- i) to provide research grants to international joint research teams;
- ii) to provide fellowships to researchers;
- iii) to organize and/or subsidize workshops; and
- iv) to conduct other activities necessary to achieve the objectives of the Organization.

Importance is attached to "scientific merit", "internationality", especially "intercontinentality", and "interdisciplinarity" in implementing the Program activities.

## Article 4. Membership

1. The Organization is composed of the members of the Board of Trustees.

2. The members of the Board of Trustees are appointed by the Management Supporting Parties (see paragraph 3 of this Article).

3. A country or an organization which supports, takes part in and appoints persons who participate in the management of the Program is referred to as a Management Supporting Party (hereinafter, "MSP").

4. The MSPs are Australia, Canada, France, the Federal Republic of Germany, Italy, Japan, the Republic of Korea, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America and the European Communities.

On the basis of the principle that the opportunity to become an MSP be basically open to all interested countries, the Board of Trustees decides as to the acceptance of those desiring to join the MSPs after deliberation on such factors as the country's scientific capacity in basic research in the research areas of the Program and the degree of support to the Program.

5. Membership is lost under the following circumstances:

- i) resignation in writing
- ii) exclusion pronounced by the Board of Trustees motivated by an act entailing materially and morally wrong effects to the Organization. In this case, the member involved may be invited to provide explanations.

#### Article 5. Organs of the Organization

The organs of the Organization are as follows :

- i) Board of Trustees
- ii) Council of Scientists
- iii) Secretariat

#### Article 6. Board of Trustees

1. The Board of Trustees is responsible for the overall policy concerning the conduct, management and operation of the Program.

2. Members of the Board of Trustees will be the two persons appointed by each MSP; the term of each member is to be decided by each MSP.

3. A President and two Vice-Presidents are elected by the members from among the Trustees for a three-year term. Their terms are renewable once for further three years.

The President chairs the Board of Trustees. The Vice-Presidents support the President, and, in the event of the President's absence, Vice-Presidents will carry out the President's duties on his/her behalf.

4. The President and the Vice-Presidents as in the last day of their respective terms will remain the President and the Vice-Presidents continuously until their respective successors are elected.

5. The disbursements are authorized by the President. The President represents the Organization in court and on every legal occasion. He may delegate his powers to the Secretary-General. The representative of the Organization must be in full possession of his civic rights.

6. The President will convene regular meetings at least once a year. The president shall call a meeting whenever two-thirds of the members of the Board of Trustees so request. For a quorum, a meeting of the Board of Trustees requires the attendance of two-thirds of the membership. Members must be given written notification to attend the meeting by mail, fax or other means at least thirty days in advance.

7. Duties and authorities of the Board of Trustees, in addition to those specified elsewhere, consist of the following:

i) To approve and revise, as appropriate, policies, procedures and statutes of the Organization ;

ii) To approve the program activity plan as well as the budget proposal for each fiscal year (including revisions);

iii) To approve the annual activity report and the financial statement for each fiscal year;

iv) To present its advice, as appropriate, to the Council of Scientists (see Article 7) on the operation of the program ;

v) To decide on the acceptance of countries desiring to join the MSPs;

vi) To appoint and dismiss members of the Council of Scientists giving due consideration to recommendations from the Council of Scientists;

vii) To appoint and dismiss the Secretary-General giving due consideration to the advice of the Council of Scientists;

viii) To determine, in conjunction with the Council of Scientists, the arrangements to be followed for the independent evaluation of the scientific achievement and management effectiveness of the Program; for which purposes the Board of Trustees may obtain additional scientific or other consultation and advice;

ix) To appoint and dismiss Auditors;

x) To deliberate and decide other basic matters regarding the management of the Program; and

xi) To decide on the establishment of branch offices.

8. The Chairperson of the Council of Scientists attends meetings of the Board of Trustees, as observer.

9. The Secretary-General attends meetings of the Board of Trustees in a non-voting capacity.

10. Auditors may, by invitation, attend meetings of the Board of Trustees as observers.

11. Decisions are made by a two-thirds majority vote. However, decisions on sections i, ii, v, vii and xi of paragraph 7 of this Article are made on a consensus basis.

The Trustees may delegate their rights to vote to their proxies from their respective MSPs by giving written notification by mail, fax or other means to the Organization in advance of the meeting of the Board of Trustees. The Chairperson of the meetings also has the right to vote.

#### Article 7. Council of Scientists

1. The Council of Scientists deliberates and decides on scientific matters related to the current operation of the Program.

2. The Council of Scientists consists of no more than 26 members. Two members are normally nominated by each MSP. The term of appointment will be for two years, renewable once for a further two years. However, in case a member is elected as the Chairperson, as defined in paragraph 4 of this Article, during the fourth year of his/her term, a further one year extension of his/her term may be granted.

3. The Secretary-General attends as a non-voting ex-officio member of the Council, withdrawing from Council consideration of any matter related to his/her appointment or dismissal.

4. A Chairperson and two Vice-Chairpersons will be elected by the members from among the Council members, each for a term of one year, renewable once for one year. The Chairperson chairs the Council of Scientists. The Vice-Chairpersons support the Chairperson and in the event of the Chairperson's absence, the Vice-Chairpersons will carry out the Chairperson's duties on his/her behalf.

5. The Chairperson and two Vice-Chairpersons as in the last day of their respective terms will remain the Chairperson and the Vice-Chairpersons continuously until their respective successors are elected.

6. The Chairperson will convene regular meetings once a year and may convene extraordinary meetings if necessary. Members must be given written notification to attend the meeting by mail, fax or other means at least thirty days in advance.

7. The duties and authorities of the Council of Scientists, in addition to those specified elsewhere, consist of the following:

i) To decide matters related to the evaluation of the applications and the selection of awardees; namely, the membership and duties of Review Committees, the operation of the mail review, the review criteria, selection procedure; and the size and term of awards to be recommended to the Board of Trustees;

ii) To review the scientific achievements of the Program and the appropriateness of the priority areas, and to advise the Board of Trustees accordingly;

iii) To give recommendations to the Board of Trustees on the appointment and dismissal of Council members; and

iv) To give advice to the Board of Trustees on the appointment and dismissal of the Secretary-General.

8. If, in its advice to the Board of Trustees based on section ii of paragraph 7 of this Article, the Council of Scientists recommends any changes to the current Program, the recommendations will be considered by the Board of Trustees in consultation with the Council of Scientists. The implementation of any such changes will be decided by the Board of Trustees.

9. Auditors may attend meetings of the Council of Scientists as observers.

10. For a quorum, a meeting of the Council of Scientists requires the attendance of two-thirds of the Council's membership, and any decisions by vote at the meeting will require a two-thirds majority of those present.

11. The Council of Scientists may invite non-member persons to participate in its meetings for advice.

### Article 8. Secretariat

1. The Secretariat consists of the Secretary-General and staff members.

2. The Secretary-General will be appointed for a three-year term. The term is renewable once up to three years. The successful candidate will be expected to devote the high level of commitment necessary to secure the development of the Program.

3. The Secretary-General selects, appoints and dismisses the senior permanent staff members in line with the following principles:

i) Candidates for the posts of Research Directors should demonstrate a satisfactory level of knowledge concerning research in the Program science areas, and appropriate experience in the administration of research support systems in basic science;

ii) Appointments policy should be such that over time the interests of MSPs and their contributions to the Program be reflected fairly; and

iii) Appointments to senior permanent Secretariat posts should be on the basis of the Secretary-General's selection from a choice of candidates, conforming to appointment procedures and job requirements to be drawn up by the Secretary-General and approved by the Board of Trustees. Appointment procedures should provide for early consultation with, and endorsement by, the Board of Trustees on appointments and dismissals of senior permanent staff.

## Annex 2

4. The Secretary-General appoints and dismisses all other permanent staff members.

5. Candidates for all Secretariat staff positions may be nominated by MSPs/Trustees and/or the Secretary-General.

6. The Secretary-General supervises the Secretariat and is accountable to the Board of Trustees for the execution of the Program in accordance with the decisions of the Council of Scientists and the Board of Trustees according to their duties and authorities.

7. Among the responsibilities of the Secretariat are :

i) To draw up the program activity plan, as well as the budget proposal for each fiscal year (see paragraph 8 of this Article);

ii) To draw up the annual activity report and the financial statement for each fiscal year (see paragraph 8 of this Article)

iii) To provide the Council of Scientists and Board of Trustees with background documentation and logistic support;

iv) To solicit applications for research grants, fellowships and workshops;

v) To be responsible for arranging all administrative aspects of the review procedures :

- sending proposals to appropriate mail reviewers under the guidance of the Council of Scientists,
- organizing meetings of the various Review Committees and transmitting their reports to the Council of Scientists,
- arranging in a timely manner the meetings of the Council of Scientists, and
- notifying applicants of the results of the review procedures ; and

vi) To issue and administer the awards.

8. The documents listed in sections i and ii of paragraph 7 of this Article will be prepared with full regard being given to the advice by the Council of Scientists.

#### Article 9. Auditors

1. Three Auditors will be appointed by the Board of Trustees. The Auditors are part-time and will remain in office for a one-year term. The term is renewable.

2. The Auditors conduct the internal auditing on the Organization's financial status and activities, and report to the Board of Trustees, which may inform the Council of Scientists.

#### Article 10. Duty to Report to the Management Supporting Parties

It is the duty of the President of the Organization to report to the MSPs on the progress of the Program activities, the financial status of the Organization, and other matters, by conveying to the latter the program activity plan, the budget proposal, annual activity report, the financial statement, auditing report, etc. In order to facilitate the evaluation of the scientific achievements of the Program by the MSPs, the President of the Organization will also submit the annual report on the review of scientific achievements.

#### Article 11. Financial Resources and Accounts

1. The financial resources of the Organization include:

i) the contributions and/or support from the MSPs and persons and/or parties other than the MSPs such as countries, districts and public institutions. Supports include subsidies, gifts and donations;

ii) the income derived from its assets.

## Annex 2

2. The Program will be supported by contributions from all MSPs. A desirable goal to be achieved over time, and as soon as feasible, is an equal match between the contributions of Japan and that of the other MSPs.

3. Regular accounts will be kept, stating receipts and disbursements.

### Article 12. Fiscal Year

The fiscal year of the Organization starts on April 1st and ends on March 31st of the following year.

### Article 13. Amendment of the Statutes

The Statutes may be amended at any time by decision of the Board of Trustees, on a consensus basis in accordance with paragraph 7 of Article 6.

### Article 14. Dissolution

1. The Organization may be dissolved at any time by a resolution adopted by the Board of Trustees on a consensus basis.

2. If, upon dissolution of the Organization, there remains, after the satisfaction of all debts and liabilities, any property whatsoever, this shall be dealt with in accordance with the decision of the Board of Trustees.

### Article 15. By-Laws

By-laws may be amended after the approval of the Board of Trustees. If newly drafted amendments to the By-laws have to be applied for any urgent reasons, prior to the approval of the Board of Trustees, they may be provisionally effective with the approval of the President until the next meeting of the Board of Trustees.

### Article 16. Reference to English Version

In case there should be any uncertainty in the interpretation of the provisions of the Statutes (French version), the English version should be referred to in order to clarify the meaning.

### Article 17. Transitional Arrangements

1. Members of the Board of Trustees at the end of March 1992 continue to be members of the Board of Trustees as of 1st April 1992.

2. Members of the Council of Scientists at the end of March 1992 continue to be members of the Council of Scientists as of 1st April 1992.

3. Notwithstanding the provision set out in paragraph 2 of Article 7, half of the members of the Council of Scientists from April 1992 may be appointed for a one-year term to promote both continuity and turnover of membership.

4. Those holding the post of Auditor at the end of March 1992 continue to be Auditors as of 1st April 1992.

5. Notwithstanding the provision of paragraphs 2 and 3 of Article 8, extensions of contracts of employment for all Secretariat staff, from 1st April 1992 to 31st March 1993, have been offered.

6. The Program will continue to be reviewed by various means, including through regular reports. A review of the effectiveness of the Program from the scientific viewpoint will be carried out some five years after the start of the initial phase (i.e. by the end of 1994). A major review of all aspects of the Program will be conducted and reported by the end of March 1996 to the MSPs as a basis for considering the future of the Program.

*Entered into force*  
April 1, 1992

#### *Revisions*

March, 1994:	Article 8, paragraph 5
March, 1995:	Article 7, paragraph 2
	Article 7, paragraph 6
March, 2003	Article 1, paragraph 2
January, 2005	Article 4, paragraph 4

# Guidelines for the Participation of New Members in the Human Frontier Science Program

## Introduction

As to the participation of New Member countries in the Human Frontier Science Program (HFSP), a general consensus has been established in Item 4 of Article 4 of the Statutes of the International Human Frontier Science Program Organization (HFSP/O), as follows:

«On the basis of the principle that the opportunity to become a Management Supporting Party (MSP) be open to all interested countries, the Board of Trustees (Board) decides on the acceptance of new Management Supporting Parties after considering such factors as:

1) the country's scientific capacity in basic research in the research areas of the Program ; and  
2) the degree of support for the Program.»

New membership is welcomed to encourage a broader participation of scientists from countries with research programs in areas relative to the objectives of the HFSP and to provide a broader financial basis for the HFSP.

In deciding on new membership, it is important to ensure the maintenance of the scientific quality of the Program, and especially the acknowledged excellence of its peer review system. In addition, the size of the Board, the Council of Scientists (Council) and the review committees must be considered so as not to interfere with their effectiveness.

## Article 1. Membership terms

1. A country wishing to become a MSP may apply in accordance with the procedures described in Article 2.

2. New members approved for membership must make a full payment of their financial contribution calculated on the basis of the overall funding strategy for the HFSP as determined by the Intergovernmental Conference (IGC)

3. Countries that do not themselves have sufficient scientific strength or that can not fulfill the financial conditions set out in this Article can form groups to meet the requirements for membership.

The countries participating in a group must designate an organizational entity responsible for managing the group's commitments to HFSP/O. The group should participate as a single MSP.

## Article 2. Procedures

1. Initial contact should be made with the Secretariat for information on procedure.

2. The interested party should indicate the governmental or intergovernmental organization that will be the point of contact for the HFSP/O and responsible for the financial commitment.

3. The interested party will be informed of the outcome by the President of HFSP/O who, on the new member's acceptance, will advise the party of the need to identify Board representatives and nominate Council members in accordance with the Statutes of HFSP/O.

4. A memorandum of understanding identifying the conditions as specified in Article 1, will be formally concluded between HFSPo and the identified governmental or intergovernmental entity and signed by both parties.

For further details, see Procedure for the consideration of membership by the Board of Trustees

### **Procedure for the Consideration of Membership by the Board of Trustees**

The Board of Trustees (Board) will take the following procedure into consideration on application for membership:

1. If a country contacts a Board member directly, the enquiry will be referred to the Secretariat.

2. The Secretariat will forward the enquiry to the Board members for consideration of the merits of the case. At least two Board members from different MSPs must be willing to take on the case for evaluation before it can be considered further.

3. If two Board members agree to pursue the case, the representatives of the candidate country will assist in the development of a portfolio reflecting the country's scientific merits. The portfolio might address the following: the level of private and governmental support of research and the level of activity of universities and institutes; the level of education in terms of the number of PhDs awarded and scientists involved in research; information on the international recognition of the country's scientists; the level of involvement in peer reviewed scientific programs; bibliometrics and other relevant criteria; readiness to assume financial commitments as determined by the IGC.

4. The two Board members reviewing the nomination should consult with the Council for advice on the status of science in the candidate country by providing the information collected on its scientific merit. In carrying out the review, the Secretariat will provide assistance, as needed.

5. When the two Board members judge the portfolio to be complete, they will present it at a Board meeting for a vote by the Board members.

6. Approval of membership requires a unanimous vote by the Board.

## Three-year Budgetary Plan

### 1) Implementation of the Berne IGC budgetary plan

a) Berne IGC indicative three-year budgetary plan in USD

The Joint Communiqué, released after the Berne IGC in June 2004, provided an indicative budgetary plan “as the fundamental framework for establishing the annual budget of HFSP0” (Annex 1, Tables 1 and 2). This budgetary plan was established in USD, the currency used by HFSP0 for the consolidation of its accounts.

b) MSPs usually set their budget in national currency and pay their contributions in the same currency.

To make the budgetary plan applicable and provide a practical tool for use by HFSP Board members, it was necessary to transpose the Berne IGC budgetary plan in USD into the currencies of the MSPs (local currency). To that end, the HFSP0 Secretariat proposed one possible approach to the Finance Committee in March 2005, followed by a presentation to the Board at its 33rd meeting, also in March 2005. After discussion, MSP representatives on the Board agreed to do their best to reach the target presented in local currency.

### 2) Conversion of the Berne IGC budgetary plan in USD into local currency

In converting the Berne IGC budgetary plan (in USD) into local currency, it was considered important to adopt a step by step approach:

1) First step: remove any uncertainty as regards exchange rate fluctuations. Exchange rate fluctuations transform a fixed target in USD into a moving target in local currency.

Not only does this complicate financial planning, but it also makes it difficult to decide whether a goal set in USD but paid in an other currency has, in fact, been reached or not. In order to mitigate these difficulties, it was suggested that a set of fixed exchange rates be adopted for the duration of the budgetary plan, independent of the actual exchange rate at any given time. The “Berne IGC reference rates” have been calculated as the average exchange rate for a given currency during calendar year 2004:

TABLE 1

Berne IGC reference rates (amount of currency for one USD)

CAD	CHF	EUR	GBP	JPY
1.30	1.24	0.80	0.55	108

These reference rates are then used to make a simple conversion of the Berne budgetary plan into local currency (Table 2). Actual contributions paid by MSPs in FY 2004 are also indicated for reference.

Table 2

First step in conversion of Berne IGC budgetary plan from USD into local currency (LC) with Berne reference rates

Actual FY 2004 Contributions in thousand LC	HFSP MSPs (LC)	Target levels for contributors in thousand LC		
		2005	2006	2007
1,080	Canada (CAD)	1,136	1,242	1,357
873	Switzerland (CHF)	610	666	728
2,600	Germany (EUR)	2,797	3,056	3,339
3,000	European Union excl 10 entrants (EUR)	2,622	2,865	3,130
1,628	France (EUR)	1,792	1,958	2,139
700	Italy (EUR)	1,355	1,480	1,617
31,247	Japan (USD)	30,000	30,000	30,000
910	UK (GBP)	901	985	1,076
9,500	USA (USD)	11,418	12,475	13,630

As indicated in Table 2, Switzerland and Japan have already exceeded in FY 2004 the target for FY 2007. Similarly, EU and the UK have contributed more than the target contribution for FY 2005 in FY 2004.

This situation results from the fulfilment of previous objectives and a relatively "low" exchange rate for the USD. As a consequence, contributions in local currency from certain MSPs could decrease from FY 2004 to FY 2005, in contradiction with the declared intention of delegates at the Berne IGC to work towards an annual increase in program activities. This led to the introduction of a second step in the conversion process.

2) Second step: maintain the actual awarding capacity of HFSP at the very least. In cases where a simple conversion from USD to local currency would result in a decrease in contribution, because of an historically low exchange rate with the USD, the principle of maintaining awarding capacity applies. Therefore:

- MSPs such as Japan and Switzerland, whose contribution already exceeds the FY 2007 target, are requested to maintain their high level of contribution (Table 3, Group A)
- MSPs that might consider decreasing their contribution temporarily are requested to increase their contribution in LC by at least 4% from the previous year to maintain HFSP awarding capacity. These are the UK and the EU (Table 3, Group B)
- Other MSPs (Table 3, Group C) are requested to plan according to the proposed guideline.

## Annex 4

Table 3

Second step in conversion of Berne IGC budgetary plan into local currency

MSP particular situation	MSP	FY 2004 Contribution		BERNE IGC target level for contribution in LC									
		USD	LC	kUSD	kLC	2005	2006	2007	kUSD	kLC			
Formula used for MSPs contributions in LC	MSP	USD	LC	kUSD	kLC	kUSD	kLC	kUSD	kLC	kUSD	kLC		
												kUSD	kLC
(Group A) Berne MSPs whose FY 2004 actual contribution in USD already exceeds the Berne IGC target level of FY 2007	JAPAN	USD	USD	31,247	31,247	30,000	31,247	30,000	31,247	30,000	31,247		
		Keep at or close to current high level				Berne guideline in kUSD requested in kLC							
			SWITZERLAND	USD	CHF	704	873	492	850	537	850	587	850
				USD		Berne guideline in kUSD requested in kLC							
(Group B) Berne MSPs whose FY 2004 actual contribution in USD already exceeds the Berne IGC target of FY 2005 or FY 2006	UK	USD	GBP	1,655	910	1,639	946	1,791	985	1,956	1,076		
		The highest between 4% annual increase or contribution based on Berne target level in currency				Berne guideline in kUSD requested in kLC							
			EUROPEAN UNION (excl. new entrants)	USD	EUR	3,750	3,000	3,278	3,581	3,913	3,375		
				USD		Berne guideline in kUSD requested in kLC							
(Group C) Berne MSPs whose FY 2004 actual contribution in USD is below the Berne IGC target of FY 2005	CANADA	USD	CAD	801	1,041	874	1,136	955	1,242	1,043	1,357		
		Contribution based on Berne target level converted into currency				Berne guideline in kUSD requested in kLC							
			FRANCE	USD	EUR	2,036	1,628	2,240	2,447	2,674	2,139		
			GERMANY	USD	EUR	3,250	2,600	3,496	3,820	4,174	3,339		
			ITALY	USD	EUR	875	700	1,694	1,850	2,022	1,617		
			USA	USD	USD	9,500	9,500	11,418	12,475	13,630	13,630		
				USD		Berne guideline in kUSD requested in kLC							

Table 4

Contribution from new MSPs for the period FY 2005 - FY 2007

MSP particular situation	MSP	Contribution currency		Target level for contribution in LC		
		Formula used for MSPs contributions in LC	Contribution currency	FY 2005	FY 2006	FY 2007
New MSPs joining from FY 2005	EU 10 NEW ENTRANTS	4% annual increase from contribution level indicated in Memorandum of Understanding or confirmed (EU)	EUR	487	506	527
	AUSTRALIA		USD	466	485	504
	KOREA		USD	546	568	591
	EU 15 + 10		EUR	3,607	3,751	3,901

nota : combined status of the EU (Berne IGC member and 10 new members)

The resulting budgetary plan, summarised in Table 3., may be considered as a «mirror» of the table included in the Berne IGC Communiqué and as a reference to evaluate the extent to which the Berne IGC target in FY 2007 is met.

## **2) Contributions from new MSPs (Table 4)**

a) New MSPs: Australia and the Republic of Korea joined the Program in December 2004 and did not participate in the Berne Intergovernmental Conference. In the Memorandum of Understanding exchanged on the occasion of their formal accession to membership, it was agreed that their contribution would be subject to a modest annual increase to maintain the Program's awarding capacity. This increase was set at 4%, on the basis of the rationale applied for current MSPs.

b) EU enlargement: ten countries joined the EU in 2004. These additional countries have a combined GDP of approximately 16.2% of the GDP of the "EU less EU MSPs (France, Germany, Italy and UK)". As a result, it was suggested that this ratio be applied to the EU contribution of 3 million EUR and an additional 486 kEUR be paid from FY 2005 in recognition of the access to full membership of these ten additional countries. An annual adjustment of 4 % was also recommended to maintain the Program's awarding capacity.

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# History of the Program

## Chronology

During 1986-87, the government of Japan introduced the concept of the Human Frontier Science Program as a means of supporting international collaboration in basic research on biological functions. For Japan, this was a way of making a significant contribution to international efforts to promote basic science. Subsequently, specific areas of research were defined at a number of international meetings. The Japanese Prime Minister, Mr. Yasuhiro Nakasone, proposed the HFSP at the Venice Economic Summit in June 1987 and the initiative was welcomed by the Economic Summit partners. To facilitate the launch of HFSP, Japan offered to provide significant funding for an initial 3-year phase, with additional contributions from the other partners, called Management Supporting Parties (MSPs)<sup>9</sup>.

During the initial phase of the Program, from October 1989 to March 1992, HFSP supported an impressive range of projects that would have been difficult or impossible to fund through traditional or national research granting agencies. A second "full-fledged" phase of the Program began in April 1992 in accordance with the Joint Communiqué for the Human Frontier Science Program, Tokyo 1992 adopted by MSPs at the Tokyo Intergovernmental Conference on the HFSP on 21-22 January, 1992. At this meeting, the representatives of the MSPs recommended the continued support of the Program beyond its initial phase.

In accordance with the Tokyo Joint Communiqué, a General Review, consisting of a scientific review and an evaluation of all aspects of the Program was carried out during FY 1995. Both reviews were conducted by external, independent organizations. On the basis of these reviews, the Board of Trustees prepared a report for Management Supporting Parties in March 1996. The conclusions of the reviews were very positive and the HFSP was placed on the agenda of the G-7 Summit Meeting in Lyon, France, in June 1996.

The second Intergovernmental Conference was held in Washington on 20 May, 1997. At this meeting, the representatives of the MSPs recognized the desirability of continuing the HFSP for a further phase of five years. Importantly, the MSPs reaffirmed the goals of the Tokyo Joint Communiqué aimed at increased and equitable funding for the Program. Following the Joint Communiqué for the Human Frontier Science Program, Washington 1997, a further General Review was completed by the end of March 2001 and distributed to the MSPs.

To mark the 10th anniversary of the Program, three ceremonies were held in different parts of the world to reflect HFSP's intercontinental character. The first ceremony was held in Tokyo on 3 December 1998, followed by a second celebration in Strasbourg on 1 June 1999. A third celebration was held in Washington D.C. on 10 December 1999.

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<sup>9</sup> Current MSPs: Australia, Canada, France, Germany, Italy, Japan, the Republic of Korea, Switzerland, the United Kingdom, the United States of America and the European Union.

The third Intergovernmental Conference was held on 20 and 21 June, 2002 in Berlin. In the Joint Communiqué for the Human Frontier Science Program, Berlin 2002 (Annex 1), the representatives reaffirmed the value of the Program's emphasis on interdisciplinary science, on the encouragement of researchers early in their careers and on international and especially intercontinental collaboration. The establishment of a unified program embracing the range of complex mechanisms of living organisms from molecular approaches to biological functions to higher brain functions was considered particularly appropriate given the recent convergence of these areas in biology. New initiatives, such as the Young Investigator Grant and the Career Development Award were highly commended. As a result, the representatives recognized that the scientific value of the HFSP warranted its continuation for a further phase of five years. Representatives also recognized the importance of expanding the membership of HFSP for the further development of international collaboration.

To mark the 15th anniversary of the Program and celebrate the inauguration of the new premises of the Secretariat, a reception was held in Strasbourg on 22 March 2004. A further celebration of the Program's anniversary was held in Hakone, Japan, on the occasion of the 4th Awardees Annual Meeting.

The fourth Intergovernmental Conference was held on 25 June, 2004, in Berne, Switzerland. In the Joint Communiqué for the Human Frontier Science Program, Berne, 2004 (Annex 1), the representatives agreed enthusiastically to the continuation of HFSP and established an indicative three-year budgetary plan as the fundamental framework for establishing an annual budget. Within the framework of an indicative three-year budgetary plan, an annual increase was recommended to maintain the awarding capacity of the Program.

At the 32nd meeting of the Board of Trustees, 6 December 2004, Australia and the Republic of Korea were admitted to membership of HFSP by unanimous decision of the Board. Memoranda of Understanding were concluded between the new members and HFSP and the Statutes of HFSP were modified to include the new MSPs. The Board also agreed to a further extension of the term of Professor Wiesel as Secretary General for three years.

**Budgetary Evolution  
(including in-kind contributions)**

FIG. 1  
Evolution of total contribution (budgeted and received)

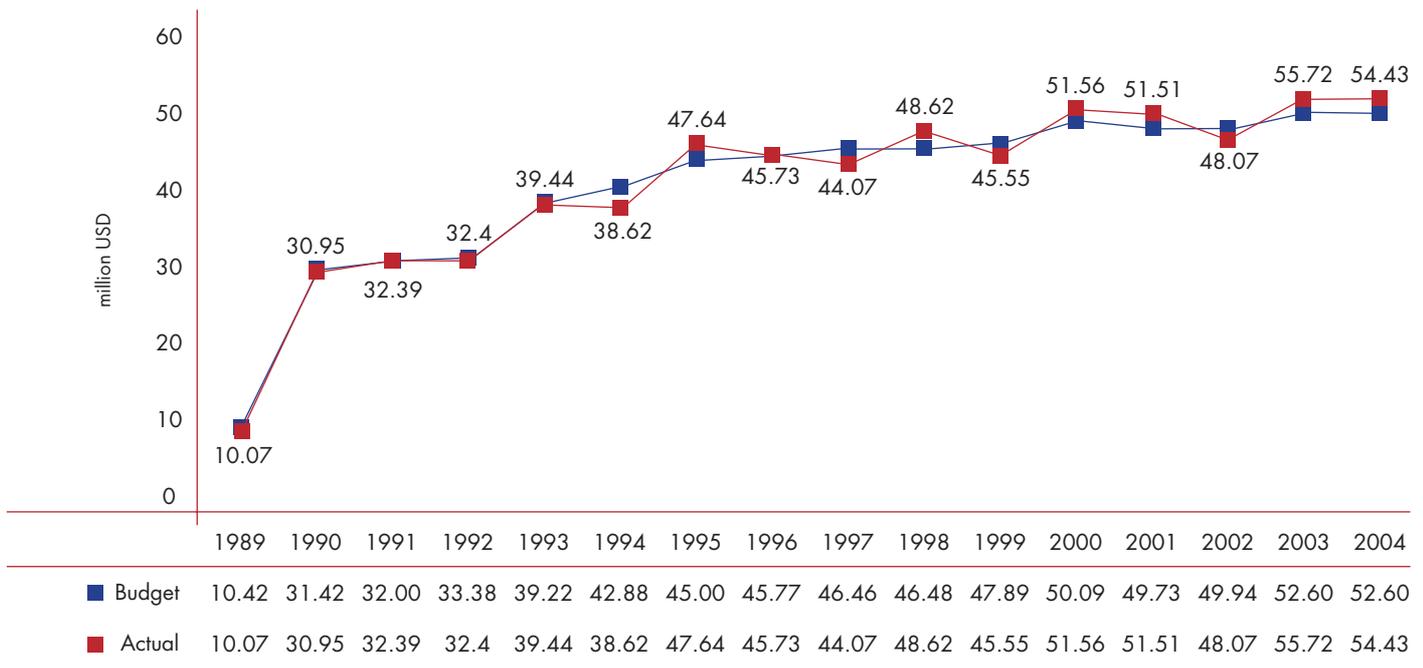
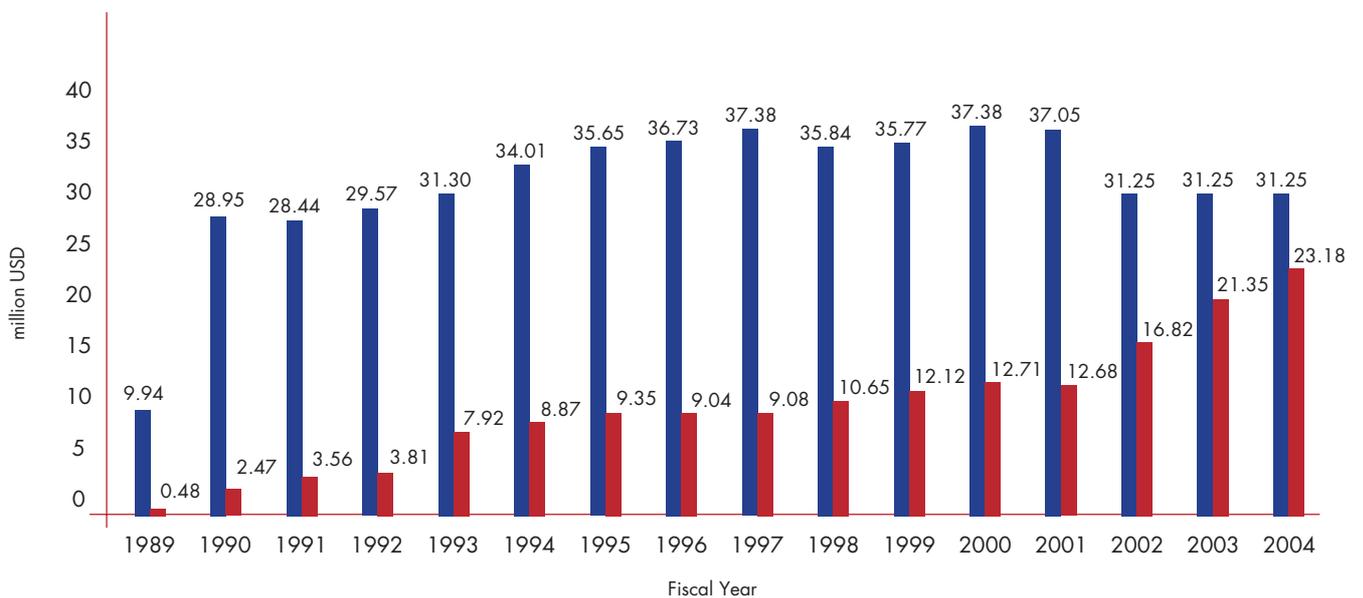


FIG. 2  
Evolution of contributions from Japan and other MSPs



## Annex 5

FIG. 3  
Evolution of expenditure

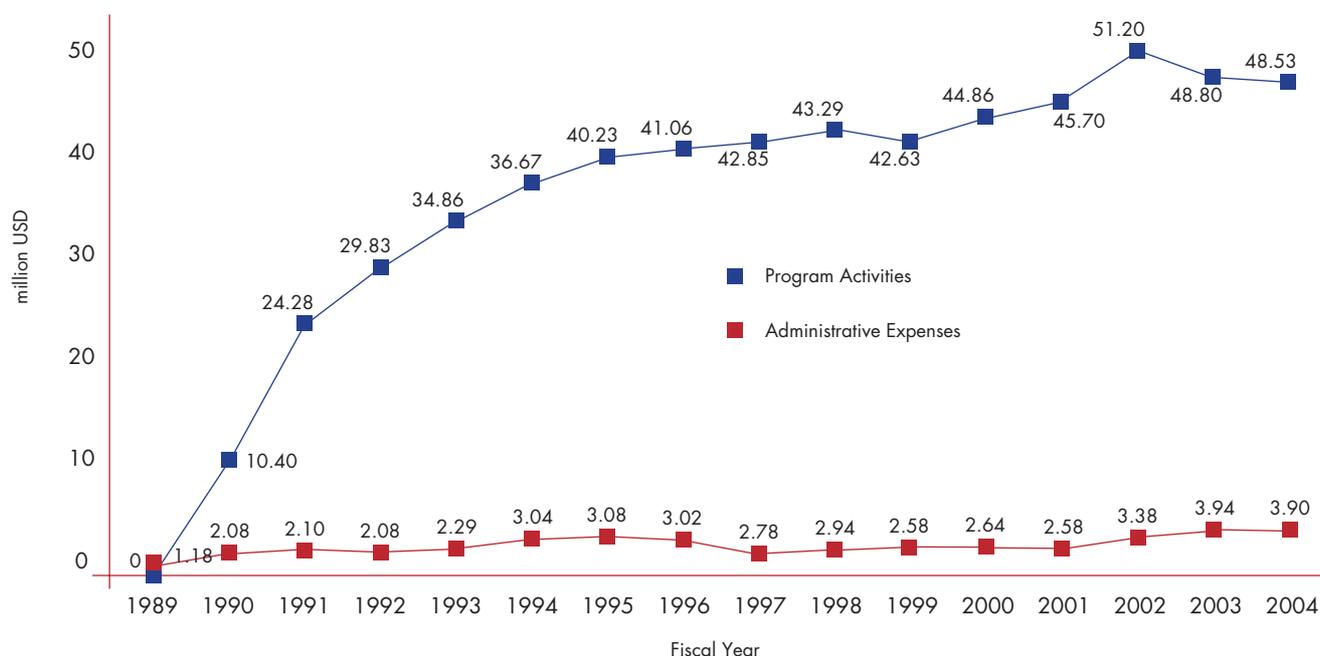


TABLE 1  
Contributions from MSPs in million USD per fiscal year at budget exchange rate

	Canada	France	Germany	Italy	Japan	Switzerland	UK	USA	European Union
FY 1989	-	0.46	-	0.02	9.94	-	-	-	-
FY 1990	0.20	1.65	0.29	0.33	28.95	-	-	-	-
FY 1991	0.00	1.62	0.91	0.44	28.44	0.40	-	0.04	0.15
FY 1992	0.40	1.32	0.77	0.19	29.57	0.40	0.51	0.04	0.18
FY 1993	0.33	1.25	0.81	0.18	31.30	0.40	0.54	3.50	0.91
FY 1994	0.54	1.56	0.99	0.18	34.01	0.40	0.59	3.50	1.11
FY 1995	0.53	1.74	1.22	0.19	35.65	0.59	0.58	3.50	1.00
FY 1996	0.26	1.37	1.17	0.18	36.73	0.51	0.63	4.00	0.92
FY 1997	0.25	1.47	1.02	0.17	37.38	0.53	0.76	4.00	0.87
FY 1998	0.45	1.70	1.25	0.29	35.84	0.58	0.76	4.50	1.11
FY 1999	0.44	1.75	1.60	0.29	35.77	0.61	0.75	5.00	1.68
FY 2000	0.45	1.58	2.10	0.26	37.38	0.55	0.75	5.50	1.52
FY 2001	0.51	1.16	2.84	0.68	37.05	0.52	0.80	7.39	0.87
FY 2002	0.83	1.40	2.35	0	31.25	0.53	1.55	8.60	2.38
FY 2003	0.81	2.05	3.83	0*	31.25	0.63	1.47	10.40	4.08
FY 2004**	0.85	2.07	3.43	2.12	31.25	0.69	1.63	9.50	4.08

The figures for contributions up to FY 1999 are earmarked. From FY 2000 actual payments are reported even though these might correspond to a different fiscal year

\* corrected from FY 2003 report

\*\* payments received or confirmed by formal notification as of the end of FY 2004

## Program Activity Plan FY 2005

The Program Activity Plan for FY 2005 defines the frame of action for FY 2005 (from 1 April, 2005 to 31 March, 2006), as decided by the Board and/or the Council. The budget is established to implement this plan.

### I. Program Activity Plan for FY 2005

#### 1. Policies

The policies guiding the Program's activities in FY 2005 are as follows:

- a. As regards research area, HFSP continues to fund basic research focused on the elucidation of the complex mechanisms of living organisms. The scientific programs will give preference to intercontinental, interdisciplinary projects and will promote interdisciplinary training.
- b. Particular encouragement will be given, as in previous years, to researchers early in their careers, enabling them to originate and pursue creative research.
- c. The activities of the Program will continue to be the award of Research Grants, Long-Term and Cross-Disciplinary Fellowships, Short-Term Fellowships, Career Development Awards and the organization of an Awardees Annual Meeting.
- d. A scientific journal dedicated to HFSP's mission will be considered to promote the Program's scientific goal of interdisciplinary and innovative research in the life sciences.

e. Public relations will be extended through, for example, the sponsoring of plenary lectures or symposia at major scientific meetings. More frequent contacts will be made with administrators and policy makers. Ministerial-level contacts with the Secretary-General are encouraged. These will be possible with the cooperation of MSPs.

#### 2. Program activities

In the review of applications and in the selection of awards for the Research Grant program, emphasis is placed on novel, innovative, interdisciplinary, international (in particular, inter-continental) approaches, and the support of research into fundamental biological problems with the involvement of scientists from outside the life sciences. The participation of scientists early in their careers is also encouraged.

In the Fellowship program, special emphasis will be given to the excellence and potential of the candidate and the shift in research area constituted by the training requested. From FY 2005, a Cross-Disciplinary Fellowship program, which aims to support young scientists from the physical sciences, chemistry, mathematics, engineering and computer sciences who wish to receive training in biology, has been established within the Long-Term Fellowship program.

The current ratio of funding between Research Grants and Long-Term Fellowships will be maintained at close to 2/3 - 1/3 .

### *a. Research Grants*

Research Grants are of two types, Young Investigator Grants and Program Grants.

Young Investigator Grants will be awarded to teams of scientists who are all within five years of establishing an independent laboratory and within 10 years of obtaining their PhD. Program Grants will be awarded to teams of independent researchers at any stage in their career, though young scientists are particularly encouraged. Applications should aim to include a high proportion of researchers early in their careers.

Both Program Grants and Young Investigator Grants will be awarded annually, for a period of three years for the support of collaboration among research teams in different countries, and especially for inter-continental collaboration. The annual amount of Young Investigator Grants awarded from FY 2005 will be the same as for Program Grants: 250 thousand USD for a two member team, 350 thousand USD for a three members and 450 thousand USD for four or more.

The two-stage review procedure will be maintained for Research Grant applications, with a Letter of Intent to be submitted online.

27 Program Grants and 7 Young Investigator Grants will be awarded in FY 2005.

### *b. Fellowships*

Fellowships consist of Long-Term Fellowships/Cross-Disciplinary Fellowships, Short-Term Fellowships and the Career Development Award.

#### *(b-1) Long-Term and Cross Disciplinary Fellowships*

Awards for Long-Term and Cross-Disciplinary Fellowships will be made once each year. Applicants are expected to have a doctoral degree or equivalent experience in research.

Applicants must be within three years of receiving their doctoral degree at the time of application. Applications will not be accepted from candidates who have already spent one year or more at the host institute at the start of the fellowship. Long-Term and Cross-Disciplinary Fellowships provide support for three years. The third year of support can be used for repatriation to a laboratory in the home country and can be deferred for up to two years. The third year can also be used in the host laboratory; however, in this case no deferral is possible.

89 Long-Term Fellowships and 12 Cross-Disciplinary Fellowships will be awarded in FY 2005. From FY 2005, the stipend is increased in principle by 5% and the possibility of parental leave has been introduced.

#### *(b-2) Short-Term Fellowships*

Short-Term Fellowships are intended to support researchers who wish to spend two weeks to three months in a laboratory in another country to learn new techniques or develop new collaborations. In addition, former Long-Term Fellows may apply to visit their former host laboratory.

Applications can be made at any time during the year. Preference is given to independent researchers early in their careers. Applicants are expected to have a doctoral degree or equivalent experience in research.

The total budget for Short-Term Fellowships remains at 200 thousand USD. (Awards are calculated on the basis of country-specific per diem amounts for each host country).

*(b-3) Career Development Award*

Long-Term Fellows will also be eligible to apply for Career Development Awards after they have completed their fellowship and have obtained a position in their home country. The award will enable them to pursue independent research. Applications for the Career Development Award will be reviewed by the Council of Scientists and authorized by the Board of Trustees.

18 Career Development Awards will be awarded in FY 2005.

*c. Awardees Annual Meeting*

The 5th Awardees Annual Meeting will be held at the NIH in Bethesda, USA, on 5-8 June 2005. Preparations begin for the 6th Awardees Annual Meeting in France.

*d. Journal and outreach activities*

A scientific journal dedicated to HFSP's mission will be considered to promote the Program's scientific goal of interdisciplinary and innovative research in the life sciences. Preparatory work is in the hands of a working group who will update the Board on progress made.

For FY 2005, 100 thousand USD are budgeted for the completion of the feasibility study and the establishment of the entity dedicated to the journal. Provision is also made for a refundable loan of 600 thousand USD that would be granted by HFSP to this entity as a start-up fund. If confirmed, this loan will be financed from the financial income of FY 2004.

The web site will be developed more extensively to feature scientific items from projects funded by the Program, as well as subjects of more general interest and those of importance in furthering the interdisciplinary aims of the HFSP. The contents of the newsletters have been enriched. The newsletter continues to be widely distributed.

Contacts will be intensified with professional bodies of scientists within and outside the life sciences to encourage applications from scientists from all the natural sciences.

The Annual Report of FY 2004 will be published by early June with new features.

**II. Draft Budget for FY 2005**

The draft budget for FY 2005 is established on the basis of the Program Activity Plan for FY 2005.

Japan, Switzerland and the USA notified the Secretariat of their estimated contribution for FY 2005.

The Secretariat is requested to manage the implementation of the above plan according to the By-laws and decisions of the Board. After the budget has been accepted, members of the Board are requested to pay their planned contribution within FY 2005.

## Research Grant awards made in 2004

### Young Investigators

#### Probing synaptic remodeling with quantum dots and Image correlation spectroscopy

DE KONINCK Paul, (CANADA/FRANCE)\*, CANADA  
DUBERTRET Benoit, FRANCE  
WISEMAN Paul, CANADA

#### Differential regulators of head muscle formation and their role in muscular dystrophies

DIETRICH Susanne, (GERMANY), UK  
SCHWIENHORST Andreas, GERMANY  
CURRIE Peter, AUSTRALIA

#### Genetic circuits: real time measurement of structure and function in living cells

ELOWITZ Michael, USA  
ALON Uri, ISRAEL

#### Structural basis for adaptation of phytochrome-mediated light signaling to different environments.

FANKHAUSER Christian, SWITZERLAND  
GENICK Ulrich K., (GERMANY), USA  
MALOOF Julin, USA

#### Molecular physiology of ribbon synapses

MOSER Tobias, GERMANY  
SAFIEDDINE Saaid, (MOROCCO), FRANCE  
VON GERSDORFF Henrique, (BRAZIL), USA  
GLOWATZKI Elisabeth, (GERMANY), USA

#### Structure Formation in Protein Folding and Collapse using Optical Techniques and Microfluidic Mixing

SCHULER Benjamin, (AUSTRIA), SWITZERLAND  
LIPMAN Everett, USA  
BAKAJIN Olgica, (YUGOSLAVIA), USA

### Program Grants

#### In vivo nanosensors for studying the regulation of Pi homeostasis and CHO partitioning in plants

ALMDAL Kristoffer, DENMARK  
FROMMER Wolf B., (GERMANY), USA  
KOSSMANN Jens, (GERMANY), SOUTH AFRICA

#### Structure and function of TRP-V cation channels

BINDELS René, THE NETHERLANDS  
ENGEL Andreas, SWITZERLAND  
HELLER Stefan, (GERMANY), USA  
NILIUS Bernd, (GERMANY), BELGIUM

#### The driving microtubule forces for cytokinesis checkpoint and early G1 cell spreading

BORNENS Michel, FRANCE  
JÜLICHER Frank, GERMANY  
KHODJAKOV Alexey, (RUSSIA), USA

#### Estimating lymphocyte kinetics by combining BrdU with CFSE labeling and mathematical modeling

DE BOER Rob, THE NETHERLANDS  
HODGKIN Philip, AUSTRALIA  
PERELSON Alan, USA

#### The expression of emotions through bodily movements.

DE GELDER Beatrice, (BELGIUM), THE NETHERLANDS  
FLASH Tamar, ISRAEL  
BERTHOZ Alain, FRANCE  
GIESE Martin, GERMANY

#### Functional Imaging of Neural Networks with Non-linear Optics

DETWILER Peter B., USA  
SHEVES Mordechai, ISRAEL  
DENK Winfried, GERMANY  
LEWIS Aaron, (USA), ISRAEL

\* Nationality (including dual nationality) of awardees is given in brackets if different from the country where the laboratory is located.

**Spike choreography: role of neuronal dynamics in sensory-motor encoding and decoding**

DIAMOND Mathew E., ITALY  
 BRECHT Michael, (GERMANY), THE NETHERLANDS  
 KLEINFELD David, USA  
 MARAVALL RODRIGUEZ Miguel, SPAIN  
 AHISSAR Ehud, ISRAEL

**Analysis of neuronal turnover in the adult human brain by retrospective birth dating of cells**

FRISÉN Jonas, SWEDEN  
 BUCHHOLZ Bruce, USA

**Mechanisms of antimicrobial peptide interactions with the target cell membrane**

GIZELI Electra, GREECE  
 KONDOH Jun, JAPAN  
 JELINEK Raz, ISRAEL  
 OUELLETTE Andre J., USA

**Dynamics of TGF-beta morphogen gradient formation**

GONZALEZ-GAITAN Marcos, (SPAIN), GERMANY  
 RAMANATHAN Sharad, (INDIA), USA  
 SCHMIDT Thomas, (GERMANY), THE NETHERLANDS  
 SCHIER Alexander, (SWITZERLAND), USA

**Cellular and molecular analysis of trypanosome responses to mammalian host resistance mechanisms.**

GULL Keith, UK  
 LUBEGA George, UGANDA  
 VANHAMME Luc, BELGIUM  
 MCINTOSH Richard J., USA

**Integrated structural biochemistry of DNA damage recognition and processing**

HANAOKA Fumio, JAPAN  
 IWAI Shigenori, JAPAN  
 TAINER John A., USA  
 NAKATANI Yoshihiro, (JAPAN), USA

**Direct observation and modeling of protein motions important for function and folding**

HAVENITH Martina, GERMANY  
 LEITNER David, USA  
 GRUEBELE Martin, (GERMANY), USA

**Exploring structural changes and energy landscapes of nuclear pores and complexes during function**

HINTERDORFER Peter, AUSTRIA  
 GRUBMÜLLER Helmut, GERMANY  
 REICH Ziv, ISRAEL

**Chemical approaches to exploit fusion proteins for studying proteins in vivo and in vitro**

JOHANSSON Kai, (GERMANY), SWITZERLAND  
 JOHANSSON Nils, GERMANY  
 MARRIOTT Gerard, (UK), USA

**Micromechanics of the cell division machinery**

KAPOOR Tarun, (INDIA), USA  
 ISHIWATA Shin'ichi, JAPAN  
 SCHMIDT Christoph F., (GERMANY), THE NETHERLANDS

**An experimentally-based mathematical model for control of beta-catenin stability by Wnt signaling**

KIRSCHNER Marc W., USA  
 HEINRICH Reinhart, GERMANY  
 BEN-NERIAH Yinon, ISRAEL

**Functional imaging of the spinal cord: from experimental animals to humans**

PORRO Carlo A., ITALY  
 JONES Anthony, UK  
 BANDETTINI Peter, USA  
 TRACEY Irene, UK

**Characterization of the mechanism underlying the avian magnetic compass**

RITZ Thorsten, (GERMANY), USA  
 WILTSCHKO Roswitha, GERMANY  
 TIMMEL Christiane R., (GERMANY), UK

**In vitro and in vivo studies of the architecture of nucleotide excision repair complexes**

SCHÄRER Orlando D., SWITZERLAND  
 VERMEULEN Wim, THE NETHERLANDS  
 OTTO Cees, THE NETHERLANDS  
 LAVRIK Olga I., RUSSIA

**Computerized 4-Dimensional Clonal Analysis of the Developing Mouse Limb**

TORRES Miguel, SPAIN  
SHARPE James, UK

**Mechanisms underlying cortical processing of emotional facial expressions**

TREVES Alessandro, ITALY  
DOLAN Raymond J., (IRELAND), UK  
JAGADEESH Bharathi, USA

**Characterization of the forces involved in the folding of actin by the cytosolic chaperonin CCT**

VALPUESTA Jose Maria, SPAIN  
BUSTAMANTE Carlos, USA  
WILLISON Keith R., UK

**Heparan sulfate saccharide sequences in (patho)biology: unravelling a third level of bioinformation**

VAN KUPPEVELT Toin, THE NETHERLANDS  
BOONS Geert-Jan, (THE NETHERLANDS), USA  
TURNBULL Jeremy, (AUSTRALIA), UK

**Sensory encoding in the cerebellum: optical and electrophysiological approaches in awake animals**

WANG Samuel, USA  
NAKAI Junichi, JAPAN  
FEE Michale, USA  
HELMCHEN Fritjof, GERMANY

**Requirement of awareness in learning**

WATANABE Takeo, (JAPAN), USA  
SCHULTZ Wolfram, (GERMANY), UK  
SAKAGAMI Masamichi, JAPAN  
VOGELS Rufin, BELGIUM

**Biogenesis, function and application of bacterial magnetic organelle**

WU Long-Fei, FRANCE  
SONG Tao, CHINA  
YONNET Jean-Paul, FRANCE  
FUKUMORI Yoshihiro, JAPAN

## Long-Term Fellowships awarded in 2004

<i>Name</i>	<i>Nationality</i>	<i>Host institute</i>	<i>Host country</i>
AHARONI Amir	ISRAEL/USA	University of British Columbia, Vancouver	CANADA
ANTONIO Celia	PORTUGAL	Columbia University, New York	USA
ARIAS-GONZALEZ J. Ricardo	SPAIN	University of California, Berkeley	USA
AUER Stefan	GERMANY	The University of Cambridge	UK
BERESHCHENKO Oksana	RUSSIA	EMBL, Monterotondo	ITALY
BHATTACHARYYA Suvendra Nath	INDIA	Friedrich Miescher Institute for Biomedical Research, Basel	SWITZERLAND
BOLLMANN Johann	GERMANY	Harvard University, Cambridge	USA
BOSSARD Carine	FRANCE	University of California, San Diego	USA
BROWN Sam	UK	University of Texas, Austin	USA
BUTT Simon	UK	New York University School of Medicine	USA
CORMACK Iain	UK	Institut de Ciencies Fotoniques, Barcelona	SPAIN
DE JONG Rene Marcel	THE NETHERLANDS	Columbia University, New York	USA
DODSON Paul	UK	University of California, Los Angeles	USA
DOIRON Brent	CANADA	New York University	USA
EHRSSON Henrik	SWEDEN	University College London	UK
EROGLU Cagla	TURKEY	Stanford University	USA
FELDMANN Jerome	FRANCE	Oxford University	UK
FLEMMING Alexandra	GERMANY	Cancer Research UK, London	UK
FÜRTHAUER Maximilian	AUSTRIA	Max Planck Institute of Cell Biology and Genetics, Dresden	GERMANY
GELDNER Niko	GERMANY	The Salk Institute, La Jolla	USA
GIRALDEZ ARELLANO Antonio	SPAIN	Skirball Institute of Biomolecular Medicine, New York	USA
GORJANACZ Matyas	HUNGARY	EMBL, Heidelberg	GERMANY
GRACIET Emmanuelle	FRANCE	California Institute of Technology, Pasadena	USA
GRECO Valentina	ITALY	The Rockefeller University, New York	USA
GREENBAUM Doron	USA	Walter and Eliza Hall Institute, Parkville	AUSTRALIA
GRUNWALD Ilona Carmen	GERMANY	University of California, Los Angeles	USA
HASHIMSHONY Tamar	ISRAEL	The University of Chicago	USA
HASPEL Gal	ISRAEL	Harvard Medical School, Boston	USA
HASSON Uri	ISRAEL	New York University	USA
HAUBENSAK Wulf	GERMANY	California Institute of Technology, Pasadena	USA

<i>Name</i>	<i>Nationality</i>	<i>Host institute</i>	<i>Host country</i>
HAUF Silke	GERMANY	Institute of Molecular and Cellular Biosciences, Tokyo	JAPAN
HIGURASHI Takashi	JAPAN	University of Wisconsin, Madison	USA
HOF Fraser	CANADA/THE NETHERLANDS	ETH Hoenggerberg, Zurich	SWITZERLAND
HUSSAIN Natasha	CANADA	Massachusetts Institute of Technology, Cambridge	USA
IGAKI Tatsushi	JAPAN	Yale University School of Medicine, New Haven	USA
INOBE Tomonao	JAPAN	Northwestern University, Evanston	USA
ISHIKAWA Taro	JAPAN	University College London	UK
JANG In-Cheol	REPUBLIC OF KOREA	The Rockefeller University, New York	USA
JASENCAKOVA Zuzana	SLOVAKIA	IGB / CNR, Naples	ITALY
KESSLER Sharon	USA	University of Zurich	SWITZERLAND
KIM Sunhwa	REPUBLIC OF KOREA	Harvard Medical School, Boston	USA
KIMCHI Tali	ISRAEL	Harvard University, Cambridge	USA
KOSLOFF Mickey	ISRAEL	Columbia University, New York	USA
KRAMPS Thomas	GERMANY	Harvard University, Cambridge	USA
KRAWCZYK Connie	CANADA	University of Pennsylvania, Philadelphia	USA
LAMBOLEZ Florence	FRANCE	La Jolla Institute for Allergy and Immunology, San Diego	USA
LAROCQUE Daniel	CANADA	University of California, Los Angeles	USA
LESSARD Julie	CANADA	Stanford University	USA
LEULIER François	FRANCE	Institute of Cancer Research, London	UK
LEUNG Anthony Kar Lun	HONG KONG	Massachusetts Institute of Technology, Cambridge	USA
LI Xueyong	CHINA	Yale University, New Haven	USA
LIM Jormay	MALAYSIA	Harvard Medical School, Boston	USA
LYLE Karen	USA	Utrecht University	THE NETHERLANDS
MacINNIS Bronwyn	CANADA	Stanford University	USA
MÄKINEN Taija	FINLAND	Max-Planck-Institute of Neurobiology, Martinsried	GERMANY
MARCO RUBIO Eugenio	SPAIN	Harvard University, Cambridge	USA
MARTIN-BELMONTE Fernando	SPAIN	University of California, San Francisco	USA
MONTEMURRO Marcelo	ARGENTINA/ITALY	UMIST, Manchester	UK
MUELLER Bruno	SWITZERLAND	Massachusetts General Hospital, Boston	USA
MURRAY Heath	USA	University of Oxford	UK
NEALE Matthew	UK	Memorial Sloan Kettering Cancer Center, New York	USA
NEUMAN Keir	CANADA/USA	Ecole Normale Supérieure, Paris	FRANCE
NINIO Shira	ISRAEL	Yale University School of Medicine, New Haven	USA
NISHINO Tatsuya	JAPAN	Research Institute of Molecular Pathology, Vienna	AUSTRIA
NIZAK Clement	FRANCE	The Rockefeller University, New York	USA
NUNES Marta	PORTUGAL	Institut Pasteur, Paris	FRANCE

<i>Name</i>	<i>Nationality</i>	<i>Host institute</i>	<i>Host country</i>
O'ROURKE Eyleen	ARGENTINA	Harvard Medical School, Boston	USA
OHASHI Yohei	JAPAN	MRC, Cambridge	UK
OP DE BEECK Hans	BELGIUM	Massachusetts Institute of Technology, Cambridge	USA
PARK Donghyun	REPUBLIC OF KOREA	University of Chicago	USA
REA Stephen	IRELAND	EMBL, Heidelberg	GERMANY
REINKE Hans	GERMANY	University of Geneva	SWITZERLAND
SANTORO Massimo Mattia	ITALY	University of California, San Francisco	USA
SCHAFT Daniel	GERMANY	The Victor Chang Cardiac Research Institute, Darlinghurst	AUSTRALIA
SELENKO Philipp	AUSTRIA	Harvard Medical School, Boston	USA
SHANI Gidi	ISRAEL	The Salk Institute for Biological Studies, La Jolla	USA
SIRONI Lucia	ITALY/UK	EMBL, Heidelberg	GERMANY
SMITS Guillaume	BELGIUM	The Babraham Institute, Cambridge	UK
STOCKBAUER Kathryn	USA	Max Planck Institute for Infection Biology, Berlin	GERMANY
STONE Sophia	JAMAICA	University of California, Davis	USA
TAKIZAWA Takumi	JAPAN	NCI / NIH, Bethesda	USA
TOMARI Yukihide	JAPAN	University of Massachusetts Medical School, Worcester	USA
VAN ATTIKUM Haico	THE NETHERLANDS	Friedrich Miescher Institute, Basel	SWITZERLAND
VAN DER GUCHT Jasper	THE NETHERLANDS	Institut Curie, Paris	FRANCE
VERMOT Julien	FRANCE	California Institute of Technology, Pasadena	USA
VIGNJEVIC Danijela	YUGOSLAVIA	Institut Curie, Paris	FRANCE
WERNIG Marius	AUSTRIA	Massachusetts Institute of Technology, Cambridge	USA
XIANG Yang	CHINA	University of California, San Francisco	USA
ZELCER Noam	ISRAEL/THE NETHERLANDS	University of California, Los Angeles	USA
ZIMMER Manuel	GERMANY	The Rockefeller University, New York	USA

## Short-Term Fellowships awarded in 2004

<i>Name</i>	<i>Nationality</i>	<i>Host institute</i>	<i>Host country</i>
ARIMONDO Paola Barbara	ITALY/UK	University of California, Berkeley	USA
BARRON Andrew	UK	University of Otago, Dunedin	NEW ZEALAND
BARTH Markus	AUSTRIA	University of Nijmegen	THE NETHERLANDS
BIASCO Adriana	ITALY	Upstate Medical University, Syracuse	USA
BOCCIA Mariano	ARGENTINA	University of California, Irvine	USA
BREDY Timothy W.	CANADA	Otto-von-Guericke University, Magdeburg	GERMANY
CAMPELLONE Kenneth	USA	University of Cambridge	UK
CASARTELLI Nicoletta	ITALY	Universitätsklinikum Heidelberg	GERMANY
DI DONATO Mariangela	ITALY	Free University of Amsterdam	THE NETHERLANDS
EVDOKIMOV Alexey	RUSSIA	Ecole Normale Supérieure, Cachan	FRANCE
GOLDEN Aaron	IRELAND	Albert Einstein College of Medicine, Bronx	USA
HERNANDEZ-VALLADARES Maria	SPAIN	Queensland Institute of Medical Research, Brisbane	AUSTRALIA
IRUELA-ARISPE Luisa	SPAIN	University of Toronto	CANADA
JEROMIN Andreas	GERMANY	Ecole Normale Supérieure, Paris	FRANCE
LARSON Daniel	USA	Gothenburg University	SWEDEN
McLEAN David	UK	Okazaki Institute for Integrative Bioscience	JAPAN
ORELIO Claudia	THE NETHERLANDS	Institut de Recerca Oncologica, Barcelona	SPAIN
PILO BOYL Pietro	ITALY	Institut Francois Magendie, Bordeaux	FRANCE
ROBERT Kylie	AUSTRALIA	University of Minnesota, Crookston	USA
ROEDER Ingo	GERMANY	McGill University, Montreal	CANADA
SCHAFFER William R.	USA	MRC Laboratory of Molecular Biology, Cambridge	UK
SCHUJMAN Gustavo	ARGENTINA	Institut Pasteur, Paris	FRANCE
TARAPHER Srabani	INDIA	CSIC, Madrid	SPAIN
VINCOURT Jean-Baptiste	FRANCE	EMBL, Heidelberg	GERMANY
VOLONTERIO Alessandro	ITALY	The Scripps Research Institute, La Jolla	USA
WALTON Mark	UK	University of Washington, Seattle	USA
WANG Dian-Shi	CHINA	Université Pierre et Marie Curie, Paris	FRANCE
WEINKOVE David	UK	University of Utah, Salt Lake City	USA
WILSON Leigh	UK	The Rockefeller University, New York	USA

## Career Development Awards in 2004

<i>Name</i>	<i>Nationality</i>	<i>Host institute</i>	<i>Host country</i>
BEN-YEHUDA Sigal	ISRAEL	The Hebrew University, Jerusalem	ISRAEL
BOISBOUVIER Jérôme	FRANCE	CNRS / CEA, Grenoble	FRANCE
CANO-DELGADO Ana I.	SPAIN	Consorcio CSIC - IRTA, Barcelona	SPAIN
CORONA Davide	ITALY	University of Palermo	ITALY
EDEN Sharon	ISRAEL/USA	The Hebrew University, Jerusalem	ISRAEL
FREI Christian	SWITZERLAND	ETH, Zurich	SWITZERLAND
FRIEDLER Assaf	ISRAEL	The Hebrew University, Jerusalem	ISRAEL
GRIBNAU Joost	THE NETHERLANDS	Erasmus University, Rotterdam	THE NETHERLANDS
HERRERA Eloisa	SPAIN	Universidad Miguel Hernandez, Alicante	SPAIN
KARPUJ Marcela	ISRAEL	The Hebrew University, Jerusalem	ISRAEL
NIEDER Andreas	GERMANY	University of Tübingen	GERMANY
OKUNO Hiroyuki	JAPAN	University of Tokyo	JAPAN
ORIAN Amir	ISRAEL	Israel Institute of Technology, Haifa	ISRAEL
PASTERKAMP Jeroen	THE NETHERLANDS	Rudolf Magnus Institute of Neuroscience, Utrecht	THE NETHERLANDS
SAKAI Katsuyuki	JAPAN	University of Tokyo	JAPAN
SCORRANO Luca	ITALY	Venetian Institute of Molecular Medicine, Padova	ITALY
UKA Takanori	JAPAN	Juntendo University School of Medicine, Tokyo	JAPAN

# Awardees Annual Meeting

**Fourth Awardees Annual Meeting**  
Hakone, Japan, 15-18 May 2004

## Saturday 15 May

15:00-19:00	Registration	10:25-11:05	Coffee
17:00-17:40	<b>15th Anniversary celebration</b> (M.C. Mr. Fumiyasu Hirashita, MEXT)		Oral session 2 (Chair: Piergiorgio Strata)
17:00-17:08	Prof. Ito, President of HFSP0	11:05-11:25	<b>Cellular and molecular mechanisms involved in the differentiation of cortical layer V neurons</b> Molnár, Z., Audinat, E., Lavery, D., Yamamoto, N.
17:08-17:15	Prof. Wiesel, Secretary General of HFSP0		
17:15-17:30	Mr. Nakasone, Former Prime Minister of Japan	11:25-11:45	<b>Unraveling the molecular basis of synaptic specificity in the mouse</b> Selimi, F., Wang, Q., Cristea, I., Heller, E., Chait, B., Heintz, N.
17:30-17:35	MEXT		
17:35-17:40	METI	11:45-12:05	<b>Depolarization-induced LTD at hippocampal mossy fiber CA3 pyramidal neuron synapses</b> Lei, S., Pelkey, K., Topolnik, L., Congar, P., Ashby, M.A., Henley, J.M., Lacaille, J.-C., McBain, C.J.
17:40-18:30	<b>Plenary Lecture: "Cell migration in the Zebrafish"</b> Prof. Christiane Nusslein-Volhard		
18:30-21:00	<b>Welcome reception</b>		

## Sunday 16 May

9:00-9:05	<b>Opening remarks/Welcoming address</b> Prof. Masao Ito, President, HFSP0	12:05-12:25	<b>Critical role for the transmembrane AMPA receptor regulatory protein <math>\gamma</math>-8 in AMPA receptor trafficking at excitatory synapses</b> Rouach, N., Byrd, K., Kealey, C., Karimzadegan, S., Bredt, D.S., Nicoll, R.A.
	Oral session 1 (Chair: Paul Lasko)		
9:05-9:25	<b>From stem cells to flowers</b> Stehling, S., Schwab, R., Kehle, A., Demar, M., Lohmann, J.U.	12:25-14:30	Lunch
9:25-9:45	<b>Tie2/Angiopoietin-1 Signaling Regulates Hematopoietic Stem Cell Quiescence in the Bone Marrow Niche</b> Suda, T., Arai, F., Hirao, A.	14:30-17:00	Poster session I
9:45-10:05	<b>Antp Superclass Genes Consortium: the origin of regulatory genes and major body plan innovations</b> Schierwater, B., Holland, P.W.H., Dellaporta, S.L.	18:00-22:00	Keynote Lecture and Dinner
10:05-10:25	<b>Fore/ hind wing differentiation in the red flour beetle, <i>Tribolium castaneum</i></b> Tomoyasu, Y., Wheeler, S.R., Shippy, T.D., Denell, R.E.	18:00-19:00	Keynote Lecture: "Challenges to Immune Disorders" Prof. Tadamiitsu Kishimoto
		19:00-22:00	Reception and Conference dinner

## Annex 11

## Monday 17 May

Oral session 3 (Chair: Hiroshi Handa)

9:00-9:20 **Extra-coding functions of RNA polymerase III-transcribed genes**

Dieci, G., Donze, D., Kobayashi, T., Conesa, C., Ferrari, R., Rivetti, C., Ruotolo, R., Buisson, N.P., Simms, T.A.

9:20-9:40 **Structural and genetic characterization of replicating chromatin in response to replication stress**

Lopes, M. Sogo, J. M.

9:40-10:00 **A transcriptional regulatory switch for growth control in yeast**

Shore, D., Di Mauro, E., Mizuta, K., Warner, J.R.

10:00-10:20 **microRNA mediated control of plant morphogenesis**

Palatnik, J.F. Allen, E., Schommer, C., Schwab, R., Wu, L., Carrington, J.C., Weigel, D.

10:20-11:05 **Coffee**

Oral session 4 (Chair: Phillip Branton)

11:05-11:25 **Importance of Specifically Located Mitochondria for Ca<sup>2+</sup> Signal Organization**

Petersen, O.H., Voronina, S., Park, M.K., Ashby, M.C., Gerasimenko, O.V., Dolman, N.J., Rizzuto, R.R., Tepikin, A.V.

11:25-11:45 **Nitric oxide signaling in mediating responses to hypoxia**

Dijkers, P.F., O'Farrell, P.H.

11:45-12:05 **Quantitative Analysis of the Pheromone Signaling Pathway in Budding Yeast Haploid Cells**

Piel, M., Guo, C., Jiang, X.J., Murray, A.

12:05-12:25 **Functional organization of the cell nucleus investigated through proteomics and molecular dynamics**

Lamond, A.I., Lam, Y.W., Mann, M., Andersen, J., Ellenberg, J., Pederson, T., Politz, J.

12:25-12:45 **Molecular Mechanism of Nucleocytoplasmic Transport**

Aebi, U., Corbett, A.H., Hurt, E., Silver, P.A., Stewart, M., Yoneda, Y.

12:45-13:05 **Misfolded proteins and the proteasome**

Holmberg, C.I., Staniszewski, K.E., Mensah, K.N., Matouschek, A., Morimoto, R.I.

13:05-14:30 **Lunch**14:30-17:30 **Excursions**18:00-19:00 **Open discussion with HFSP staff**19:00 **Dinner**

## Tuesday 18 May

Oral session 5 (Chair: Ko Sakai)

8:45-9:05 **Cell assembly interactions between connected brain areas during learning and memory consolidation**

McNaughton, B.L., Lansink, C., Ito, R., Barnes, C.A., Everitt, B.J., Robbins, T.W., Pennartz, C.M.A.

9:05-9:25 **Presynaptic inhibition in awake, behaving monkey**

Seki, K., Perlmutter, S.I., Fetzi, E.E.

9:25-9:45 **Stem Cell Therapy of Injured CNS**

Okano, H.

9:45-10:05 **Preparing for the future task**

Sakai, K.

10:05-10:25 **Brain mechanisms of syntactic processing**

Sakai, K.L., Phillips, C., Poeppel, D.

10:25-11:05 **Coffee**

Oral session 6 (Chair: Emil Pai)

11:05-11:25 **Structural basis of active ion transport by P-type ATPase**

Toyoshima, C., Inesi, G., Champeil, P.

11:25-11:45 **Accurate measurement of long-range distances and angles in nucleic acids and proteins from cross-correlated and liquid crystal NMR**

Boisbouvier, J., Bax, A.

11:45-12:05 **Molecular movements essential for ribosome function**

Benitz, C., Mazauric, M.H., Traikia, M., Seol, Y., Skinner, G., Yoshizawa, S., Visscher, K., Fourmy, D., Joseph, S.

- 12:05-12:25 Structures of macromolecular assemblies and functions of molecular machines  
Bamford, D.H., Burnett, R.M., Stuart, D.I.
- 12:25-12:45 Evidence for a nanoscale gear mechanism in the molecular motor cytoplasmic dynein  
Mallik, R., Carter, B.C., Lex, S.A., King, S.J., Gross, S.P.
- 12:45-14:30 Lunch
- 14:30-17:00 Poster session II
- 17:00-18:00 Plenary Lecture  
Mechanism of Intracellular Transport and Kinesin Superfamily Proteins,  
KIFs: Structure, Dynamics, Functions, and Diseases  
Prof. Nobutaka Hirokawa
- 18:00 Farewell reception and dinner

Wednesday 19 May

Visit to RIKEN

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## Public Relations Activities in FY 2004

### Web-site

The HFSP web site (<http://www.hfsp.org>) continues to give information on ongoing scientific activities of HFSP. The Hot off the Press rubric on the home page features recent papers of special interest published by HFSP awardees and further sections related to the awardees and their work are planned. The Japan Science Foundation presents information on HFSP in Japanese on its own site (<http://jhfsp.jsf.or.jp>).

According to the internet search engine, Google, almost 1000 web pages in web sites around the world link to the HFSP home page. These are mostly sites dedicated to summarizing funding opportunities (e.g. GrantsNet), academic institutions (especially pages summarizing funding opportunities) and other funding agencies. In particular, efforts are continuing to link with the web pages of academic societies both within and outside the biological sciences so as to inform scientists in all disciplines of the opportunities offered by HFSP. An occasional electronic newsletter is sent out to over 6000 subscribers to inform them about HFSP activities and point to new information on the web site.

### Scientific and science policy meetings

The Secretary General and scientific directors attended the following scientific and science policy meetings;

### 2004

"Early Stage Researcher Mobility in Europe – Meeting the Challenges and Promoting Best Practice", Marie Curie Fellowship Association and Gulbenkian Foundation, 25-27 February, Lisbon, Portugal.

Career Fair for NIH Visiting Fellows, Joint Career Fair by NCI, FIC and NIEHS, 5 March, Bethesda, MD, USA.

Foundation for Health Research in Castilla-la Mancha, 12-13 June, Toledo, Spain.

EMBO 40th anniversary, 18-20 June, Heidelberg, Germany.

4th Forum of European Neuroscience, 10-14 July, Lisbon, Portugal

The 5th International Conference on Biological Physics ICBP 2004, 23-27 August, Göteborg, Sweden.

Postdoctoral Career Retreat; Postdoc Association of the ETHZ, 24-25 September, Zurich, Switzerland

34th Annual Meeting of the Society for Neuroscience, 23-27 October, San Diego, USA.

"Career Development in Science and Technology in Japan and Europe." A joint AIST-OST workshop with support from MEXT (Japan), 2 November, Paris, France

Netherlands Organisation for Scientific Research  
"Fostering international cooperation between  
scientists in Europe: the role of research councils",  
4-5 November, Amsterdam, The Netherlands.

"Towards the next Research Framework Program  
– sustainable research and innovation policy  
in an enlarged Europe", 11 November, Bonn,  
Germany

Meeting of the Académie Mondiale des Jeunes  
Scientifiques (WAYS), 11-14 December,  
Marrakech, Morocco.

European Commission, "New complementary  
strategies for better coordination of funding for  
basic research in the life sciences in Europe", 13  
December, Brussels, Belgium

## 2005

EuroDoc Annual Conference, 11-13 March,  
Strasbourg, France



Human Frontier Science Program