



APRIL 2012 - MARCH 2013

# ANNUAL REPORT FY 2012

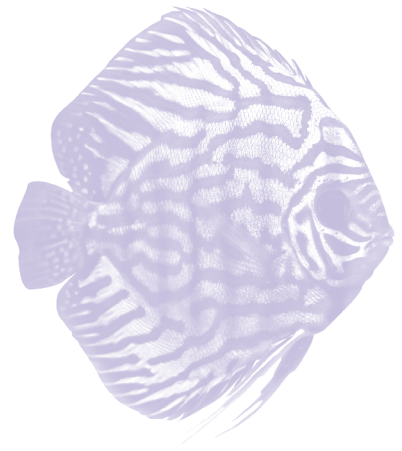


THE INTERNATIONAL  
HUMAN FRONTIER SCIENCE PROGRAM  
ORGANIZATION

## HUMAN FRONTIER SCIENCE PROGRAM

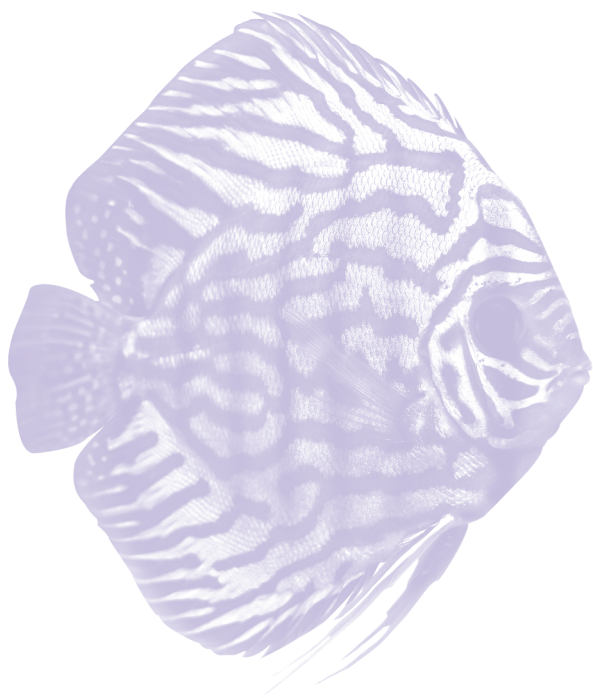
The Human Frontier Science Program is unique, supporting international collaboration to undertake innovative, risky, basic research at the frontier of the life sciences. Special emphasis is given to the support and training of independent young investigators, beginning at the postdoctoral level. The Program is implemented by an international organisation, supported financially by Australia, Canada, France, Germany, India, Italy, Japan, the Republic of Korea, New Zealand, Norway, Switzerland, the United Kingdom, the United States of America, and the European Union. Since 1990, over 6000 awards have been made to researchers from more than 70 countries. Of these, 18 HFSP awardees have gone on to receive the Nobel Prize.





APRIL 2011 - MARCH 2012

# ANNUAL REPORT



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The following documents are available on the HFSP web site  
**[www.hfsp.org](http://www.hfsp.org)**

Joint Communiqués  
(Tokyo 1992, Washington 1997, Berlin 2002, Bern 2004, Ottawa 2007, Canberra 2010):  
<http://www.hfsp.org/about-us/governance/intergovernmental-conference>

Statutes of the International Human Frontier Science Program Organization:  
<http://www.hfsp.org/about-us/governance/statutes>

Guidelines for the participation of new members in HFSP:  
<http://www.hfsp.org/about-us/new-membership>

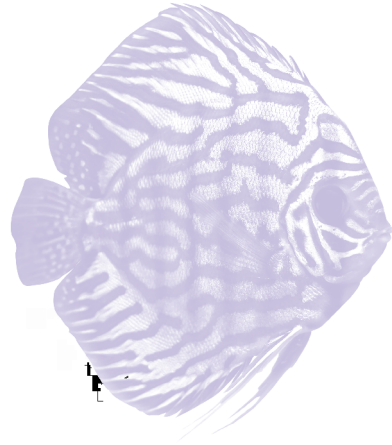
General Reviews of the HFSP (1996, 2001, 2006-2007, 2010):  
<http://www.hfsp.org/about-us/reviews-hfsp>

Updated and previous lists of awards, including titles and abstracts:  
<http://www.hfsp.org/awardees>

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# INTRODUCTION



## Introduction

Highlights in FY 2012  
Message of the Secretary General  
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# INTRODUCTION

The Human Frontier Science Program (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.

The International Human Frontier Science Program Organization (HFSP/O) implements the Program through the following mechanisms of research support, details of which can be found in Chapters 1 and 2 of this report:

- Long-Term Fellowships – for young scientists within three years of obtaining their Ph.D who wish to broaden their scientific experience in a foreign laboratory.
- Cross-Disciplinary Fellowships – modeled on the Long-Term Fellowships but specifically for scientists with Ph.Ds in non-biological disciplines who seek training in the life sciences.
- Career Development Awards – for former HFSP Fellows to help them set up their own independent laboratories in the home country or another HFSP member country.
- Young Investigator Grants – grants for interdisciplinary teams of young researchers who are within the first five years of their first independent positions and located in different countries.
- Program Grants – for interdisciplinary teams of researchers in different countries at any stage of their careers.

Since 1990, 932 Research Grants involving 3,500 scientists, 2,661 Long-Term, 82 Cross-Disciplinary Fellowships and 181 Career Development Awards have been awarded. Researchers from more than 70 countries have received HFSP funding so far.

The focus of research supported by HFSP is on the complex mechanisms of living organisms, ranging from the biomolecular level to that of behaving organisms. The 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 aims to stay at the forefront of research by involving scientists from outside the life sciences as part of research collaborations and as postdoctoral fellows. To this end, the Young Investigator and Program Grants are specifically geared to fostering interactions between scientists from different disciplines and this is a major factor in the review of applications in these programs. In addition, HFSP has extended its commitment to interdisciplinary research by introducing Cross-Disciplinary Fellowships to equip young scientists from outside biology with the skills needed to tackle problems in the life sciences.

With a mission to the frontiers of science, HFSP supports the next generation of researchers who are in the strongest position to open new avenues of research. Several of the HFSP programs are specifically targeted towards early career scientists: the Fellowship programs, Career Development Award and Young Investigator Grant. In addition, Program Grant teams are encouraged to include young scientists with the result that a significant number of scientists under the age of 40 participate in this program. Taking these researchers together, approximately 70% of annual HFSP funds are awarded to early career researchers.

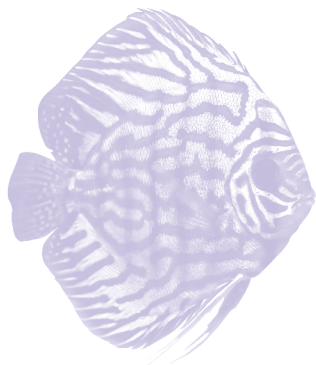
The HFSP/O is financed and managed by representatives of the Management Supporting Parties (MSPs). The MSPs are those countries that directly fund the HFSP Programs plus the European Union, which represents the EU countries that do not contribute directly. The MSPs are: Australia, Canada, France, Germany, India, Italy, Japan, the Republic of Korea, New Zealand, Norway, Switzerland, the United Kingdom, the United States of America and the European Union. Japan provided about 42 % of MSPs' contributions for FY 2012.

The HFSP/O is governed by a Board of Trustees (Board) consisting of representatives of the MSPs. The Board is advised by a scientific advisory body, the Council of Scientists (Council) and the Organization is run from the Secretariat in Strasbourg, France.

## HIGHLIGHTS IN FY 2012



*Left to right:  
Ernst-Ludwig Winnacker and Nobutaka Hirokawa*



- Nobutaka Hirokawa took up the position of President of HFSP on 1 April 2012.
- Ernst-Ludwig Winnacker began his second mandate as Secretary General of HFSP for a further term of three years from 1 July 2012.
- The recipient of the HFSP Nakasone Award 2012 was Gina Turrigiano, Brandeis University, USA.
- Stephen Quake, Stanford University, USA, was selected as the recipient of the HFSP Nakasone Award 2013.
- The 2012 Awardees Meeting was held in Daegu City, Republic of Korea, on 1-4 July 2012.
- Alumni Meetings were held in Vienna, Austria, on 9 September 2012 and in Boston, USA, on 13 February 2013.

## MESSAGE FROM the Secretary General

### The foundations of HFSP



*Ernst-Ludwig Winnacker,  
Secretary General of HFSP*

#### **The foundations of HFSP**

One of the highlights of the HFSP year is the annual Awardees Meeting. In 2012, the Awardees Meeting took place in Daegu, Republic of Korea. Our friends in this hospitable country went to great lengths to make their visitors most comfortable. The venue turned out to be ideal for the occasion and offered many opportunities for our 200 plus awardees to interact as a community of scholars around poster boards and in the lecture room. A dinner, hosted by the mayor of Daegu City, in the inner court of the Daegu Hyanggyo, an academy devoted to the teachings of Confucius, combined Western Opera with traditional Korean airs and followed a welcome-speech by a famous Confucian scholar.

One afternoon during the meeting, I was invited by our hosts to visit Daegu II Science High School, a school for highly gifted students between 15-17 years of age, selected from all over South Korea for their unique talent in the natural sciences. I explained to them the progress made in the field of biology during the last several years. Their English turned out to be much better than their English teacher expected, no doubt attributable to intense exposure to US pop music in Korea. This simplified our discussions, which turned out to be extremely interesting. One student told me that he loved physics but hated biology and challenged me to convince him otherwise. I told him that the major, if not decisive, difference between biology and the other natural sciences is the notion of information<sup>1</sup>, which adds a further dimension to the input already provided by physics, chemistry, the computer sciences and engineering<sup>2</sup>. This distinction makes biology a particularly exciting field of study at a time when efficient tools are being developed to study the transformation of information into knowledge not only in biology but in many other fields of research which affect the well-being of human beings and their surroundings.

1: Sydney Brenner at: <http://rstb.royalsocietypublishing.org/content/365/1537/207.full.pdf+html>  
2: Paul Nurse at: <http://www.nature.com/nature/journal/v454/n7203/full/454424a.html>

I do not know whether I was able to convince him to make the intricacies of modern biology his future professional career, but the subject matter certainly is close to the heart of HFSP. According to Article 2 of HFSP's statutes, 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...". Complex systems abound in our universe - from the behavior of galaxies to questions of climate to the dynamic system earth with its volcanoes and earthquakes. Yet the processing of information in biological systems remains a unique challenge, which adds to their general complexity. We, at HFSP, see this in the kind of grants or fellowships, which are selected by our review committees. Modern biology is largely technology driven. In the course of only a few years, there have been spectacular breakthroughs, for example, in the resolution of the light-microscope, the speed and cost of DNA sequencing, in optogenetics or in chip-based microfluidics. These developments have completely changed the face of biology and some were recognized by the HFSP Nakasone Award in the past years.

The frontiers in the life sciences move rapidly and are driven by integrated approaches and the convergence of fields on biology. A recent report published by MIT<sup>3</sup> speaks of the emerging field of convergence, which brings together the life sciences, the physical sciences, and engineering. There is no better description of HFSP. A decade ago HFSP tried to inspire these developments by asking for interdisciplinary applications; variable combinations of chemistry, physics and the computer sciences with life sciences. Today, the best applications tend to integrate interdisciplinary approaches as a matter of course. Modern biology is no longer a merely descriptive field but has long become systemic, if not synthetic.

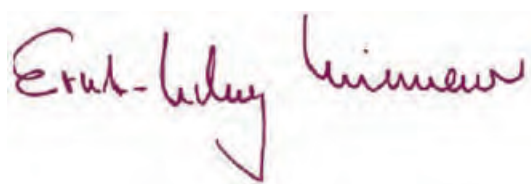
To meet these developments the Board reviewed its funding instruments in the light of the priorities established in its Strategic Outlook 2012-2016. At a special meeting in Washington DC in September 2012, the Board expressed the wish to support all three programs (Research Grants, Fellowships and Career Development Awards) but agreed that the Research Grant program for international collaborative projects is the highest priority, should austerity measures ever have to be taken.

In addition, the Board worked with the Council to enhance its role as an advisory body to the Board. In principle and according to the Statutes, the Council

is the scientific conscience of HFSP. It is supposed to "deliberate and decide on scientific matters related to the current operation of the Program". In order to fulfill this unique function, the Council has been asked by the Board to hold its annual meeting right after the HFSP Awardees Meeting. This enables members of the Council to gain first-hand experience of the range and quality of HFSP-funded research and to perceive novel developments and directions. In fine-tuning the relationship between its statutory bodies, these are now more closely linked and focused upon on the joint task of supporting international, cutting-edge research at the frontier of the life sciences.

HFSP is unique not only in its globally mandate, but also in its vision to constantly redefine and understand the rapidly moving frontiers of the human mind as they apply to complex mechanisms of living systems. I am constantly inspired when I reflect on how the Japanese government and, in particular, Prime Minister Nakasone, perceived these challenges and opportunities 25 years ago, and then met them by establishing a research funding organisation appropriate to the task. Japan has sustained this vision to this day and remains the key financial contributor. From the launch of HFSP in 1989, members have included the G7 group of countries, the European Union and Switzerland. Other countries have joined more recently and the Program welcomes additional members in fulfilment of its mission to be a truly global research council. At a meeting in May 2012, in preparation for the upcoming Intergovernmental Conference, representatives of potential new member countries were invited to attend as observers. New member countries with sufficient research capacity are routinely invited to join.

In order to establish the financial framework for FY 2014-2016, an Intergovernmental Conference hosted by the European Union, will take place in June 2013. We all realize the tremendous financial challenges facing the member countries. Nevertheless we hope that the joint efforts of our awardees, of our Selection and Review Committee members, of the Council, and, finally, of the members of the Secretariat will be rewarded for their efforts with a stable outlook for HFSP's future.

A handwritten signature in dark ink, reading "Erich-Ludwig Winnauer". The signature is written in a cursive, flowing style. Below the signature is a large, stylized checkmark or flourish.

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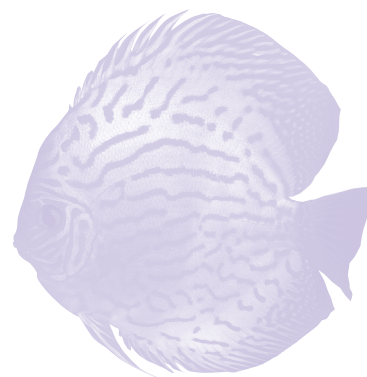
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Left to right: Toru Nakahara, Jill Husser  
and Ernst-Ludwig Winnacker

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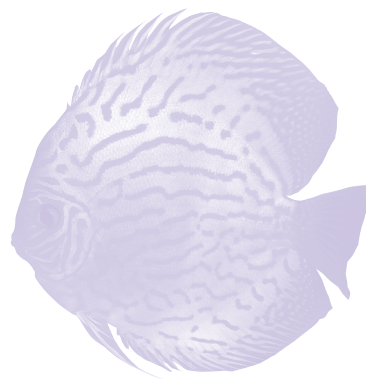
Akihiko TANAKA (Japan)



Members of the Secretariat



# CHAPTER 1



## Fellowship Program



*Left to right: Carine Schmitt, Marie-Claude Perdigues and Carmen Gervais*

- 1.1 Introduction
- 1.2 Long-Term and Cross-Disciplinary Fellowships
- 1.3 Fellowship Awards in 2013
- 1.4 The 2013 Review Committee for Fellowships
- 1.5 Career Development Awards
- 1.6 Career Development Awards in 2013
- 1.7 The 2013 Review Committee for Career Development Awards

# 1.1

## INTRODUCTION

One of the pillars of HFSP's mission is to support frontier research in the basic life sciences through the support of talented international postdoctoral researchers in the world's best laboratories. HFSP fellowships focus on research using quantitative and system-level approaches that respond to the increased complexity of biological questions and contribute to the scientific methodology needed to advance our understanding of fundamental mechanisms.

Career development is integral to the Fellowship programs, not only by enabling research in a new country, but also in offering flexibility and support in the transition from postdoctoral fellow to independent researcher. The third year of the fellowship offers the option for fellows to either repatriate or move to another HFSP member country. In addition, fellows can apply for the HFSP Career Development Award for support to set up their first independent laboratory. This synergistic combination is exemplary in enabling career development at a particularly critical stage, and HFSP fellows emerge as well-trained, well-connected scientists doing truly frontier research.

# 1.2

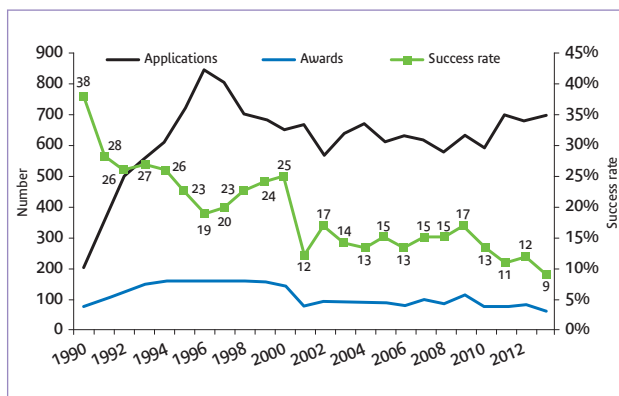
## LONG-TERM AND CROSS-DISCIPLINARY FELLOWSHIPS

There are two types of fellowship, Long-Term (LTF) and Cross-Disciplinary (CDF):

- LTF applicants hold a Ph.D in a biological discipline; and
- CDF applicants hold a Ph.D outside the life sciences (e.g. physics, chemistry, mathematics, engineering, computer sciences, etc).

LTFs support applicants who propose a significant change in research direction, with an innovative research project which departs from their previous research. Fig. 1-1 shows the number of applicants and awardees, as well as the competition success rates since the program was launched in 1990.

**Fig. 1-1:**  
Long-Term Fellowship applications, awards and success rates 1990-2013.



**Table 1-1:**  
**Number of eligible applications and awards**  
**offered in competition years 2005-2013** (numbers  
for award year 2013 are subject to change).

#### Long-Term Fellowships

| Award year   | Number of    |            | Success rate (%) | Female awardees |           |
|--------------|--------------|------------|------------------|-----------------|-----------|
|              | applications | awards     |                  | Number          | %         |
| 2005         | 609          | 89         | 15               | 22              | 25        |
| 2006         | 629          | 83         | 13               | 29              | 35        |
| 2007         | 614          | 95         | 15               | 32              | 34        |
| 2008         | 580          | 89         | 15               | 32              | 36        |
| 2009         | 633          | 109        | 17               | 39              | 36        |
| 2010         | 592          | 75         | 13               | 32              | 43        |
| 2011         | 699          | 76         | 11               | 20              | 26        |
| 2012         | 680          | 80         | 12               | 19              | 24        |
| 2013         | 695          | 61         | 9                | 21              | 34        |
| <b>TOTAL</b> | <b>5731</b>  | <b>757</b> | <b>13</b>        | <b>246</b>      | <b>32</b> |

#### Cross-Disciplinary Fellowships

| Award year   | Number of    |           | Success rate (%) | Female awardees |           |
|--------------|--------------|-----------|------------------|-----------------|-----------|
|              | applications | awards    |                  | Number          | %         |
| 2005         | 65           | 12        | 18               | 1               | 8         |
| 2006         | 55           | 10        | 18               | 2               | 20        |
| 2007         | 54           | 5         | 9                | 0               | 0         |
| 2008         | 56           | 11        | 20               | 1               | 9         |
| 2009         | 39           | 10        | 26               | 2               | 20        |
| 2010         | 55           | 11        | 20               | 1               | 9         |
| 2011         | 63           | 9         | 14               | 2               | 22        |
| 2012         | 67           | 5         | 7                | 0               | 0         |
| 2013         | 55           | 9         | 16               | 5               | 56        |
| <b>TOTAL</b> | <b>509</b>   | <b>82</b> | <b>16</b>        | <b>14</b>       | <b>17</b> |

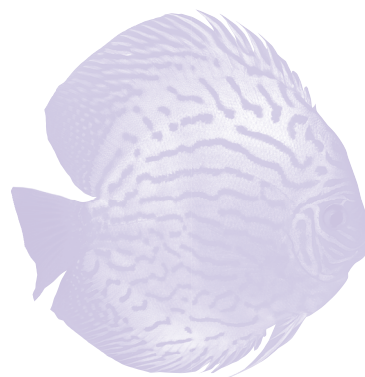
CDFs support applicants who can demonstrate the mutual learning benefits and innovation potential of combining their non-biological training with the expertise of the host laboratory to address a fundamental biological question.

CDFs were first awarded in 2005 and since then the applications for this program have accounted for about 7-10% of annual fellowship submissions (Table 1-1). The diversity of disciplines of the applicants to the fellowships program – which focuses on research in fundamental biology – is a strong indicator that HFSP's objective to provide a bridge across disciplinary boundaries is indeed being fulfilled.

To be eligible, applicants to both programs must be within three years of receiving their Ph.D at the time of application, must have at least one first author publication and must not have worked in the host institution for more than 12 months by the proposed start date of their fellowship.

The level of support to LTFs and CDFs is identical, and both offer the possibility of deferring the third year of funding for up to two years while being supported through other funding sources. The fellowships provide an annual living allowance as well as a research and travel allowance. HFSP fellows with children qualify for a child allowance, and fellows who have a child during the fellowship can take up to 3 months of paid parental leave.

A list of researchers who activated their award in FY 2012 can be found in Appendix 4



# 1.3

## FELLOWSHIP AWARDS IN 2013

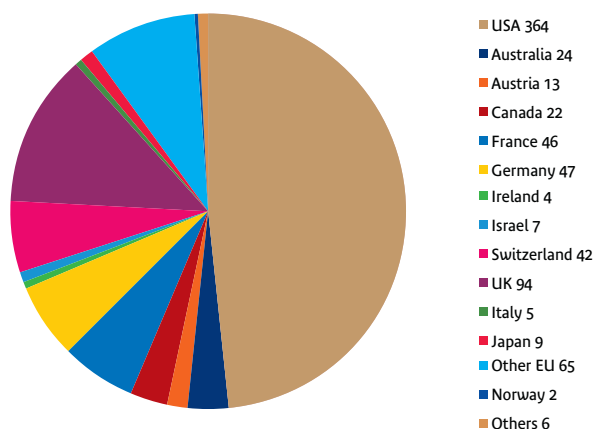
The call for applications is announced annually in major scientific journals and through the HFSP web site. The deadline for the submission of fellowship applications was 30 August 2012. All applications were screened by the Secretariat for compliance with formal criteria and with the scientific scope of the Program. Each application was assigned to two members of the Review Committee for evaluation; members were typically assigned 50-60 applications each. Applications were triaged based on ratings submitted in advance of the committee meeting, and the top 20% of applications were discussed during the meeting on 14-16 January 2013. The Review Committee ranked the applications and made recommendations on the most meritorious applications that could be supported within expected budgetary constraints. They also established a reserve list of applications in case any awards are declined or new funding becomes available.

At its meeting in March 2013, the Board approved 70 awards for the coming fiscal year. Figure 1-2 shows the distribution of the 2013 applicants and awardees according to proposed host country, and the nationalities of the 2013 applicants and awardees are in Table 1-2.

Fig. 1-2:

**Proposed host country of Long-Term and Cross-Disciplinary Fellowship applicants and awardees in FY 2013** (*distribution of awards is subject to change*)

### APPLICATIONS



### AWARDS

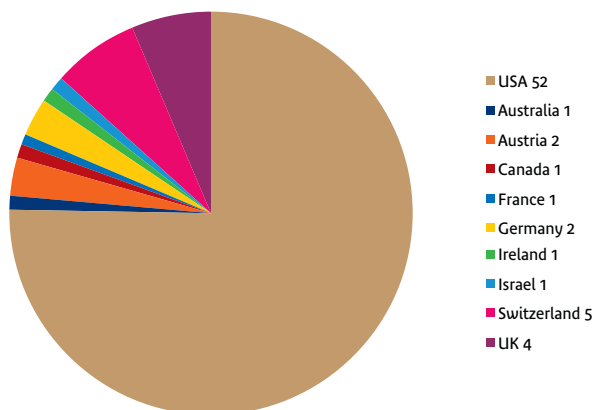


Table 1.2:

**Nationality of Long-Term (LTF) and Cross-Disciplinary Fellowship (CDF) applicants and awardees for FY 2013**

| Nationality  | Total applicants | Total awardees | LTF applicants | LTF awardees | CDF applicants | CDF awardees |
|--------------|------------------|----------------|----------------|--------------|----------------|--------------|
| Australia    | 20               | 2              | 19             | 1            | 1              | 1            |
| Canada       | 27               | 2              | 25             | 2            | 2              | 0            |
| EU           | 167              | 8              | 157 (a)        | 5 (a')       | 10 (c)         | 3 (c')       |
| France       | 61               | 5              | 55             | 4            | 6              | 1            |
| Germany      | 70               | 14             | 64             | 12           | 6              | 2            |
| India        | 54               | 2              | 49             | 2            | 5              | 0            |
| Italy        | 36               | 5              | 34             | 5            | 2              | 0            |
| Japan        | 46               | 3              | 43             | 3            | 3              | 0            |
| Korea        | 18               | 2              | 18             | 2            | 0              | 0            |
| New Zealand  | 3                | 0              | 3              | 0            | 0              | 0            |
| Norway       | 1                | 0              | 0              | 0            | 1              | 0            |
| Switzerland  | 7                | 4              | 6              | 3            | 1              | 1            |
| UK           | 24               | 2              | 20             | 2            | 4              | 0            |
| USA          | 25               | 1              | 25             | 1            | 0              | 0            |
| Other        | 191              | 20             | 177 (b)        | 19 (b')      | 14 (d)         | 1 (d')       |
| <b>TOTAL</b> | <b>750</b>       | <b>70</b>      | <b>695</b>     | <b>61</b>    | <b>55</b>      | <b>9</b>     |

**Long-Term Fellowship applicants:****(a) EU:**

Austria 3, Belgium 5, Bulgaria 1, Cyprus (EU part) 1, Czech Republic 4, Denmark 1, Estonia 1, Finland 7, Greece 12, Hungary 5, Ireland 3, Lithuania 1, The Netherlands 14, Poland 15, Portugal 18, Romania 1, Slovakia 2, Spain 55, Sweden 8

**(b) Other:**

Algeria 1, Argentina 9, Bangladesh 2, Belarus 2, Brazil 8, Cameroon 1, Chile 6, China 25, Colombia 1, Croatia 6, Cuba 1, Indonesia 1, Iran 4, Israel 48, Lebanon 1, Malaysia 4, Mexico 7, Morocco 1, Philippines 1, Russia 2, Singapore 1, South Africa 1, Sri Lanka 1, Taiwan 2, Turkey 1, Venezuela 1, Zimbabwe 1, dual nationality 38

**Cross-Disciplinary Fellowship applicants:****(c) EU:**

Austria 1, The Netherlands 2, Romania 1, Spain 5, Sweden 1

**(d) Other:**

Argentina 2, China 2, Croatia 1, Egypt 1, Indonesia 1, Israel 3, Lebanon 1, dual nationality 3

**Long-Term Fellowship awardees:****(a') EU:**

Bulgaria 1, Greece 1, Hungary 1, Spain 2

**(b') Other:**

Chile 1, China 3, Cuba 1, Israel 9, Canada/UK 1, Germany/Israel 2, Ireland/UK 1, Israel/Russia 1

**Cross-Disciplinary Fellowship awardees:****(c') EU:**

Austria 1, The Netherlands 1, Spain 1

**(d') Other:**

Croatia 1

# 1.4

## THE 2013 REVIEW COMMITTEE FOR FELLOWSHIPS



*David Dankort, Chair of the  
Fellowship Review Committee*

### **Chair**

**David DANKORT**, McGill University, Montreal, Canada

### **Vice-Chair**

**Vidita VAIDYA**, Tata Institute of Fundamental Research, Mumbai, India

### **Australia**

**Kum Kum KHANNA**, The Queensland Institute of Medical Research, Brisbane

**Peter KOOPMAN**, The University of Queensland, Brisbane

### **Canada**

**David DANKORT**, McGill University, Montreal  
**Richard ROY**, McGill University, Montreal

### **European Union**

**Nick BARTON**, Institute of Science and Technology Austria, Klosterneuburg, Austria

**Martijn HUYNEN**, Nijmegen Centre for Molecular Life Sciences, The Netherlands

### **France**

**Martin BLACKLEDGE**, Institute of Structural Biology, Grenoble

**Christophe MULLE**, University of Bordeaux

### **Germany**

**Joerg ENDERLEIN**, Georg August University, Goettingen

**Paola FUCINI**, Johann Wolfgang Goethe University, Frankfurt am Main

**Karsten KRUSE**, Saarland University, Saarbrücken

**Jane PARKER**, Max-Planck Institute of Plant Breeding Research, Cologne

### **India**

**Vidita VAIDYA**, Tata Institute of Fundamental Research, Mumbai

### **Italy**

**Diego DI BERNARDO**, Telethon Institute of Genetics and Medicine, Naples

**Gioacchino NATOLI**, European Institute of Oncology, Milan

### **Japan**

**Hiroyuki NAKAHARA**, RIKEN Brain Science Institute, Saitama

### **New Zealand**

**Nigel BIRCH**, School of Biological Sciences, Auckland

### **Norway**

**John Michael KOOMEY**, Centre for Molecular Biology and Neuroscience, Oslo

### **Republic of Korea**

**Ildoo HWANG**, Pohang University of Science and Technology

**Narry KIM**, Seoul National University

### **Switzerland**

**Jean PIETERS**, Biozentrum, Basel

### **United Kingdom**

**Georges LACAUD**, Paterson Institute for Cancer Research, Manchester

**Claudio STERN**, University College London

### **United States of America**

**Nicholas HATSOPOULOS**, University of Chicago

**Tatyana SHARPEE**, The Salk Institute for Biological Studies, La Jolla

### **Other**

**Orly REINER**, Weizmann Institute, Rehovot, Israel

### **Delegate of the Council of Scientists**

**Hermann GAUB**, Ludwig-Maximilians-University, Munich, Germany

# 1.5

## CAREER DEVELOPMENT AWARDS

The transition from postdoctoral fellow to independent researcher is one of the most challenging career stages, combining scarce resources and often a move to a different city/ country at a time when there is significant pressure to be productive and demonstrate impact.

HFSP's suite of programs helps mitigate these issues and facilitates career development for global top talent. The Career Development Award (CDA) builds on the HFSP Fellowships program, being exclusively open to current and former HFSP fellows and offering the possibility of seamless HFSP support when repatriating to their home country or moving to another HFSP member country. The award provides 300,000 USD of support over three years to fellows who are either in the process of obtaining, or already hold, their first independent research position. The funds are primarily used to cover the costs of research.

HFSP is exemplary in enabling early career development by facilitating the mobility of fellows in the final year of the fellowship, offsetting the costs to set up an independent research laboratory through the CDA, and then targeting early career researchers in the Young Investigator Grants. HFSP alumni are strong contributors to the global network of researchers open to new ideas and international collaboration.

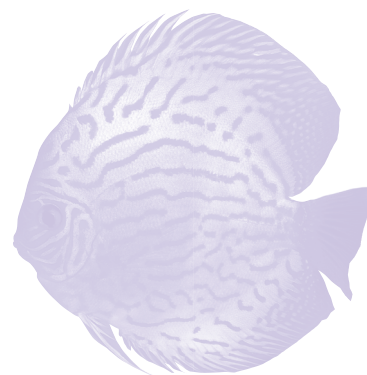
The CDA program was launched in 2003. Applications were evaluated by the Council until 2011; a Review Committee has evaluated applications for the past two competitions.

Since the inception of this program, 523 applications have been submitted to hold the award in 31 different countries. There have been 181 award recipients (Table 1-3). The number of applicants varies each competition year, but is limited by the number of eligible HFSP fellows. Typically about 10% of the eligible fellows apply for a CDA.

A list of researchers who activated a CDA in FY 2012 is found in Appendix 5.

**Table 1-3:**  
**Career Development Award applications and awards in competition years 2004-2013** (*numbers for award year 2013 are subject to change*)

| Award year   | Number of    |            | Success rate (%) | Female awardees |           |
|--------------|--------------|------------|------------------|-----------------|-----------|
|              | applications | awards     |                  | Number          | %         |
| 2004         | 41           | 17         | 41               | 5               | 29        |
| 2005         | 47           | 18         | 38               | 2               | 11        |
| 2006         | 51           | 29         | 57               | 6               | 21        |
| 2007         | 48           | 24         | 50               | 6               | 25        |
| 2008         | 57           | 20         | 35               | 5               | 25        |
| 2009         | 49           | 24         | 49               | 2               | 8         |
| 2010         | 47           | 16         | 34               | 2               | 13        |
| 2011         | 40           | 9          | 23               | 1               | 11        |
| 2012         | 55           | 8          | 15               | 2               | 25        |
| 2013         | 66           | 8          | 12               | 1               | 13        |
| <b>TOTAL</b> | <b>523</b>   | <b>181</b> | <b>35</b>        | <b>32</b>       | <b>18</b> |



# 1.6

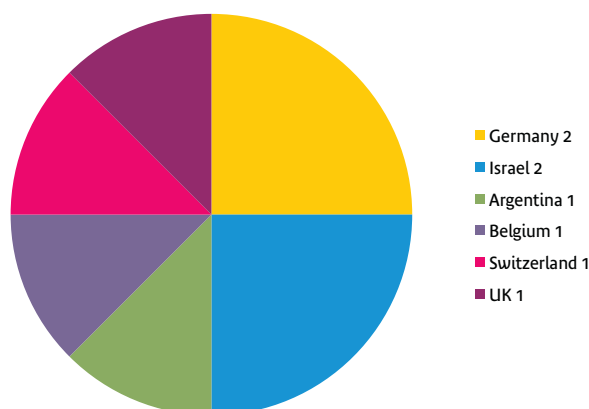
## CAREER DEVELOPMENT AWARDS IN 2013

Current and former fellows who are eligible to apply for a CDA are alerted to the call for applications. The deadline for applications was 14 November 2012; 66 eligible applications were received. Fellows from award years 2005-2010 were eligible to apply.

Each application was assigned to two members of the Review Committee for evaluation; members were typically assigned 12-15 applications each. Between 3-6 mail reviews from experts in the proposed field of research were secured for each application. Applications were triaged based on ratings submitted in advance of the Committee meeting, and the top 25% of applications were discussed during the meeting on 15 February 2013. The Review Committee ranked the applications according to excellence and fit with the HFSP vision of supporting frontier research, and recommended 8 applications for funding along with a reserve list of 2 applications should any awards be declined or new funding become available.

At its meeting in March 2013, the Board approved 8 CDAs for the coming fiscal year. Figure 1-3 shows the host country of the awardees in the 2013 competition.

**Fig. 1-3:**  
Host country of awardees in the 2013 competition for Career Development Awards



# 1.7

## THE 2013 REVIEW COMMITTEE FOR CAREER DEVELOPMENT AWARDS



*Daniel Kiehart, Chair of the Career  
Development Award Review  
Committee*

### **Chair**

**Daniel KIEHART**, Duke University, Durham, USA

### **Vice-Chair**

**Frederick MACKINTOSH**, Free University,  
Amsterdam, The Netherlands

### **Canada**

**Emil PAI**, University of Toronto

### **European Union**

**Frederick MACKINTOSH**, Free University,  
Amsterdam, The Netherlands

### **France**

**Eric VIVIER**, Université de la Méditerranée, Marseille

### **Germany**

**Michael KIEBLER**, Ludwig-Maximilians University,  
Munich

### **Italy**

**Marco BIANCHI**, San Raffaele University, Milan

### **Japan**

**Ko SAKAI**, University of Tsukuba

### **United Kingdom**

**Iain HAGAN**, University of Manchester

### **United States of America**

**Daniel KIEHART**, Duke University, Durham

**Marja TIMMERMANS**, Cold Spring Harbor Laboratory

### **Delegate of the Council of Scientists**

**Pico CARONI**, Friedrich-Miescher Institute, Basel,  
Switzerland



## CHAPTER 2



# Research Grant Program



*Left to right: Geoffrey Richards,  
Armelle Koukouï and Carole Asnaghi*

- 2.1 Overview of the Grant Program
- 2.2 Young Investigator Grants
- 2.3 Program Grants
- 2.4 Research Grant Awards in 2013
- 2.5 The 2013 Review Committee  
for Research Grants

# 2.1

## OVERVIEW OF THE GRANTS PROGRAM

Research Grants are awarded for innovative collaborative projects of fundamental biological research carried out by an international, and preferably intercontinental, team of two to four scientists having their laboratories in different countries. In fact, over the last five years, 97% of the awards have gone to intercontinental teams. Successful teams with five members are rare as the majority of larger teams have a weak link or show a redundancy in expertise so that the overall research plan is not convincing. Grants are awarded for a period of three years to teams who propose to combine their expertise to approach problems in the life sciences that could not be answered by the individual laboratories. So as to help break down traditional barriers between disciplines, from 2001 to 2008 HFSP emphasized the importance of interdisciplinarity in the grants program. By 2008 this had become widespread and that year the Review Committee asked for more freedom in weighting the innovative, international and interdisciplinary components when assessing applications. Currently

most emphasis is placed on the innovative nature of the collaboration although this often involves novel combinations of expertise. Particular attention is given to collaborations that bring together scientists from different disciplines (e.g. biology, chemistry, physics, mathematics, computer science and engineering). Applicants are expected to develop new lines of research, rather than continuing their ongoing program, and so as to encourage novel ideas and innovative approaches, preliminary results are not required. The Principal Applicant's laboratory must be located in one of the member countries while the other team members may be situated anywhere in the world.

There are two categories of research grant: Young Investigator Grants for groups of young scientists establishing their research groups, and Program Grants for scientists at any stage of their careers. The applications are processed in parallel but the grant Review Committee in January examines and ranks each category separately.

### Where are the frontiers?

The biggest challenge for the Review Committee is to identify novel frontier research applications often incorporating diverse expertise from both the biological and physical sciences. For this the committee must include members familiar with disciplines such as chemistry, physics, mathematics and engineering in addition to the more traditional biological sciences. A major change in the grant program over the last five years is the increasingly quantitative nature of the biology being proposed. A decade ago, a biophysicist and a computational neuroscientist on the Grant Committee handled almost all things numerical. In the January 2013 Committee there were five biophysicists, two theoretical systems biologists and a bio-informatics expert as well as a computational neuroscientist and a computational structural biologist (others had experience in both of these areas). Five years ago the ‘quantitative’ projects were largely speculative (the computational modeler was most often an ‘add-on’ to a team of biologists) whereas many systems projects today are considered ‘routine’.

The range of applications is such that the Committee may lack the expertise necessary to assess the contribution of some of the team members. In these cases we solicit opinions from mail reviewers working in departments that may be unfamiliar with the Program. Fortunately, not only do we observe the same willingness to help in the review process from such experts as those in more traditional biological departments, but also we often receive spontaneous remarks confirming the originality and interest of the project. However these same specialist reviewers sometimes point out that the ‘innovative’ approach is routine in their discipline and that furthermore the applicants grasp of the approach is superficial.

The concept of novelty is related to the development of certain fields or techniques. A novel technology (microscopy, protein labelling, transgenic models, computational programs etc.) may become widely available within two or three years of its first appearance in the HFSP competition and will start to appear as a tool in a large number of applications. Similarly a project considered cutting-edge one year may be considered as routine a couple of years later. A recent example would be the use of optogenetics. In fact, in the absence of technological breakthroughs, fields can appear to stagnate for a year or two while teams concentrate on exploiting the last wave of innovation. This may well be high quality science destined for major journals, but the committee members must have sufficient stature so as to decide whether an approach has become standard or is truly innovative.

### Face to face collaborations

The trend for successful teams to organize regular meetings to discuss problems face to face, or to visit each others’ laboratories for a few weeks so as to understand the scope of their partners’ contributions has been maintained. The flexibility in the use of HFSP funds allows the reactivity that is essential for such collaborations – notably for travel and team meetings when critical decision points are reached. Scientists are learning the interest of making such collaborations reality (rather than continuing their ongoing projects in parallel) and the Review Committee gives considerable importance to the details of interactions between the team members envisaged in the full application. With the expansion of HFSP membership in recent years we are seeing changes in the profiles of collaborations.

## 2.2 YOUNG INVESTIGATOR GRANTS

The Young Investigator Grant scheme was introduced in the 2001 award year to encourage collaboration between young scientists who are within five years of obtaining their first independent positions. Young Investigator Grant teams receive 250 000 USD per year for two members, 350 000 USD for three members, and 450 000 USD for four or more. Local collaborations in the same country are permitted but teams only receive funds equivalent to 1.5 team members and then only if the collaboration is truly interdisciplinary. This measure aims to facilitate the formation of teams involving scientists with different expertise since it is often difficult for scientists, especially younger investigators, to find appropriate partners internationally. In the 2013 award year, applications from Young Investigators represented about 22% of the letters of intent received. As a group they were slightly more successful than the applications to the Program Grants (Table 2-1).

## 2.3 PROGRAM GRANTS

These 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. Funding is based on team size and is the same as for the Young Investigators including the rules concerning team members from the same country. The quality of applications in this competition has been boosted by the arrival of a cohort of younger investigators who have acquired expertise in several areas of research during their doctoral and post-doctoral training. As many of these have now established their laboratories more than five years ago they are no longer eligible for the Young Investigator competition. In 2013 it was noticeable that a large percentage of Program Grants teams were led by investigators under 40 years old.

# 2.4

## RESEARCH GRANT AWARDS IN 2013

Awardees for FY 2013 were selected among the applications received in reply to the call published in the journals *Science* and *Nature*, on the HFSP web site and the web sites or newsletters of relevant scientific societies. 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 28 March 2012. After a record number of letters of intent received for the 2012 cycle (Fig. 2-1), the interest in the 2013 cycle was essentially the same as in the 2011 cycle.



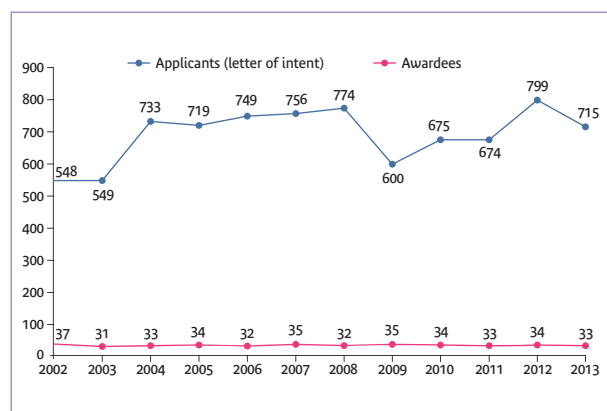
The 715 letters of intent were initially screened for formal eligibility. This included 4 renewal applications from Young Investigator teams (a trial initiative authorised by the Board in December 2009). No letters of intent were rejected on the grounds of eligibility. Since 2005, triage has been introduced; a small scientific committee including the Chair and Vice-Chair of the Review Committee screened the letters of intent and those that did not meet the scientific aims of the Program, 86 applications in all, did not enter the full review process. The Principal Applicant was informed as soon as possible so that the team might apply for funding elsewhere. Each remaining letter of intent was evaluated by two Review Committee members. The top-scoring projects were examined by a Selection Committee consisting of previous and past members of the Review Committees. The Selection Committee met on 25-27 June to discuss some 37% of the original submissions (259 new applications and the 4 Young Investigator renewal applications). Following these discussions, 94 applicants were invited to submit a full application including 2 Young Investigator renewal 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.

Invitations were sent out immediately after the Selection Committee meeting with the deadline for submission of full applications as 13 September 2012. All but three of the invited teams submitted full applications which were reviewed. 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 21-23 January 2013 in Strasbourg to discuss the 91 full applications and recommended 33 for awards, 10 Young Investigator and 23 Program Grants, with a reserve list of 1 Program Grant should funds be available. The selection of awards was monitored by the Council and financial considerations (budgetary restrictions) were taken into account by the Board before the recommendations were approved. Both awardees and unsuccessful applicants received feedback from the committee in the form of a short summary.

Fig. 2-1 shows the number of applications and awards between award years 2002 and 2013. Between 1990 and 2001 there was a single step procedure with an average success rate of c.13%. This was simplified from 2002 onwards by the introduction of shorter letters of intent where applicants outline their collaboration and project. Following an initial review by members of the Grant Review Committee, a smaller Selection Committee invites full applications for the more promising proposals. The numbers of applications and awards using this two step procedure from 2002 onwards are shown in Table 2-2.

Fig. 2-1:  
Research Grant applications and awards



**Table 2-1:**  
**Recommendations of Review Committee - Summary Table**

|                                                     | Program Grants | Young Investigators | Total |
|-----------------------------------------------------|----------------|---------------------|-------|
| Number of letters of intent                         | 556            | 159                 | 715   |
| Number of full applications                         | 63*            | 31                  | 94*   |
| % of recommended grants, based on letter of intent  | 4.1            | 6.3                 | 4.6   |
| % of recommended grants, based on full applications | 38.3           | 32.3                | 36.2  |
| *3 invited but not submitted                        |                |                     |       |

**Table 2-2:**  
**Research Grant applications and awards each year since 2002 (2 step procedure)**

| Award year   | Letters of intent | Full applications received | Awards       |    | Success rate* (%) | Total cost in their 1 <sup>st</sup> year (USD million) |
|--------------|-------------------|----------------------------|--------------|----|-------------------|--------------------------------------------------------|
|              |                   |                            | PG           | YI |                   |                                                        |
| 2002         | 548               | 72                         | 26           | 11 | 51.4              | 12.35                                                  |
| 2003         | 549               | 80                         | 22           | 9  | 39.0              | 10.85                                                  |
| 2004         | 733               | 67                         | 27           | 6  | 49.2              | 11.75                                                  |
| 2005         | 719               | 86                         | 27           | 7  | 39.5              | 12.75                                                  |
| 2006         | 749               | 80                         | 20           | 12 | 40.0              | 11.05                                                  |
| 2007         | 756               | 80                         | 25           | 10 | 44.3              | 12.70                                                  |
| 2008         | 774               | 88                         | 18           | 14 | 36.8              | 10.65                                                  |
| 2009         | 600               | 88                         | 26           | 9  | 39.8              | 12.10                                                  |
| 2010         | 675               | 84                         | 25           | 9  | 40.5              | 11.25                                                  |
| 2011         | 674               | 88                         | 22           | 11 | 37.5              | 11.40                                                  |
| 2012         | 799               | 95                         | 25           | 9  | 35.8              | 12.20                                                  |
| 2013         | 715               | 91                         | 23           | 10 | 36.2              | 11.70                                                  |
| <b>TOTAL</b> |                   |                            | <b>932**</b> |    |                   |                                                        |

In 2012 an additional award was made in September (after the publication of FY2011 report).

\* based on full applications \*\* Grand total of awards (1990-2013)

Table 2-3 and Table 2-4 present an analysis of gender distribution in award year 2013

**Table 2-3 and 2-4:**  
**Gender distribution in award year 2013**

|               |                | Letter of Intent |       | Invited |       |
|---------------|----------------|------------------|-------|---------|-------|
|               |                | Program          | Young | Program | Young |
| <b>Female</b> | No. Scientists | 366              | 100   | 41      | 20    |
|               | %              | 20.4%            | 23.6% | 19.4%   | 24.1% |
| <b>Male</b>   | No. Scientists | 1424             | 324   | 170     | 63    |
|               | %              | 79.5%            | 76.4% | 80.6%   | 75.9% |
| <b>TOTAL</b>  | No. Scientists | 1791*            | 424   | 211     | 83    |

\* Program: 1 information refused

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

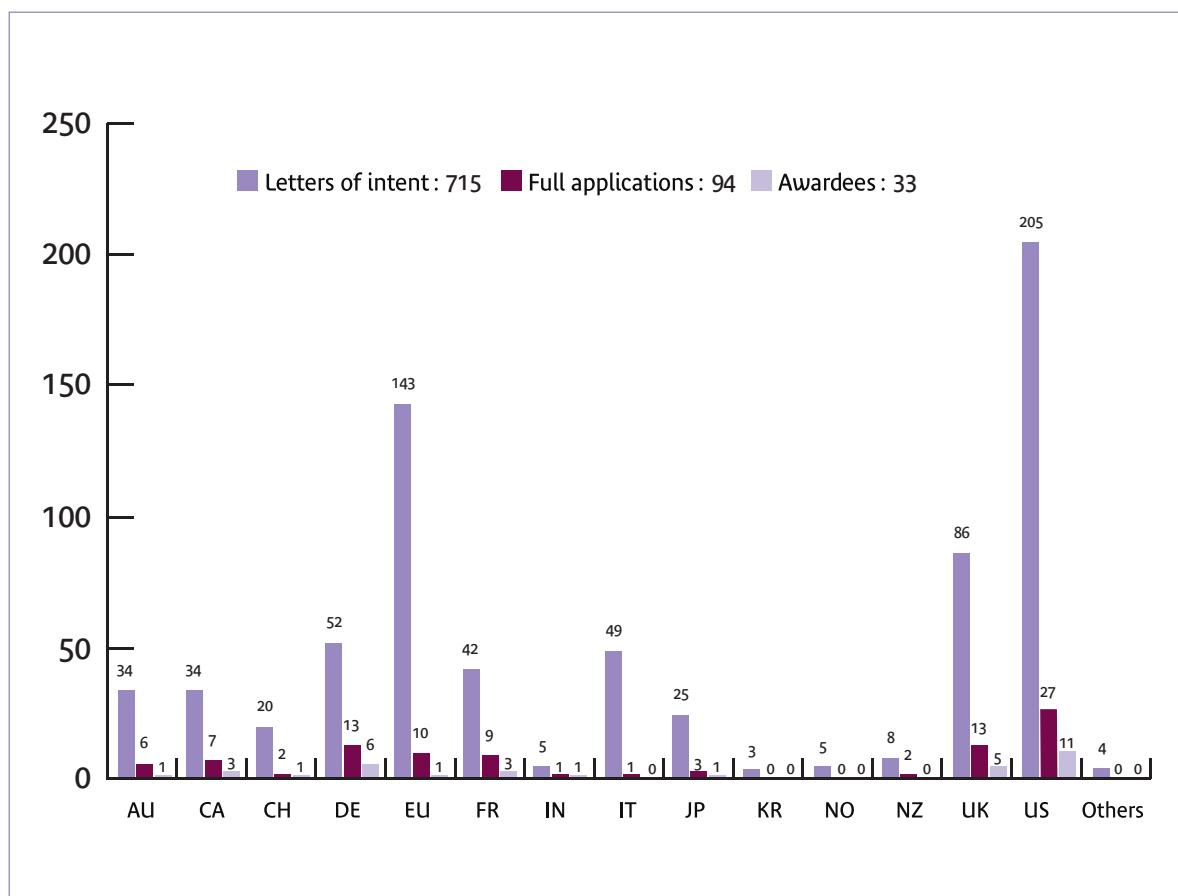
|                | Total | Female | % Female | (2012) | Female PI | (2012) |
|----------------|-------|--------|----------|--------|-----------|--------|
| <b>Program</b> | 81    | 16     | 19.7     | 24.4   | 5         | 6      |
| <b>Young</b>   | 28    | 5      | 17.9     | 17.4   | 1         | 2      |
| <b>TOTAL</b>   | 109   | 21     | 19.3     | 22.9   | 6         | 8      |

## Distribution of awards per country

(Figs. 2-2, 2-3, Table 2-5) Fig 2-2 shows the distribution of Principal Investigators for the 2013 awards among various countries and Fig. 2-3 shows the total number of scientists in different countries participating in the international teams.

The largest number of applications came from Principal Investigators in the USA and nearly one third of successful applicants (all team members) were working in the USA.

**Fig. 2-2:**  
Countries in which Principal Investigators are working



### EU Letters of Intent

PG: Austria 3, Belgium 3, Czech Republic 2, Denmark 9, Finland 3, Greece 2, Hungary 3, Ireland 4, The Netherlands 23, Poland 1, Portugal 3, Slovenia 1, Spain 38, Sweden 11, Romania 1

YI: Austria 2, Czech Republic 1, Finland 2, Greece 1, Hungary 1, Ireland 2, The Netherlands 10, Portugal 1, Spain 12, Sweden 4

### EU Invited

PG: Ireland 1, The Netherlands 3, Spain 3

YI: Portugal 1, Spain 2

### EU awarded

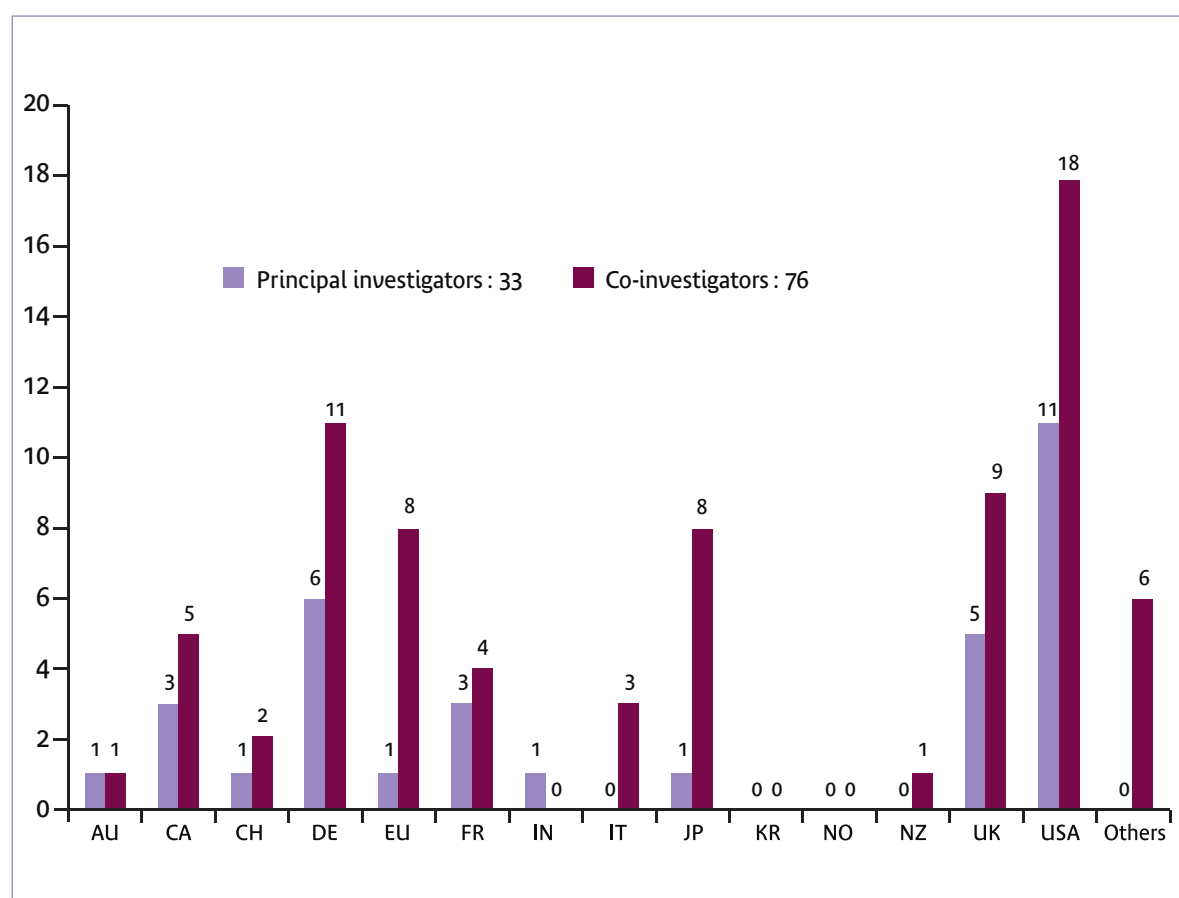
YI: Portugal 1

### Others: CDA awardees not in a MSP

Letters of Intent: Israel 4 (3 PG) and Argentina (1 PG)

Movements of PIs after submission of the letter of intent are not considered in these data, for details see Table 2-5.

**Fig. 2-3:**  
Countries in which awardees are working



#### Principal Investigators

EU: Portugal 1

#### Co-Investigators

EU: Austria 1, Belgium 1, Czech Republic 1, Denmark 2,  
Spain 2, Sweden 1

Non MSPs: Israel 4, Panama 1, Turkey 1

Movements of awardees after submission of the letter of intent are not considered in these data, for details see Table 2-5.

Table 2-4:

Number of applicants and awardees listed by country of institution

| PG=Program Grants<br>YI=Young Investigators | Letter of Intent |            |             | Invited    |           |            | Awarded   |           |            | Total 2*   |
|---------------------------------------------|------------------|------------|-------------|------------|-----------|------------|-----------|-----------|------------|------------|
|                                             | PG               | YI         | Total       | PG         | YI        | Total      | PG        | YI        | Total      |            |
| Australia                                   | 81               | 20         | 101         | 15         | 5         | 20         | 2         | 0         | 2          | 2          |
| Canada                                      | 83               | 20         | 103         | 11         | 6         | 17         | 4         | 4         | 8          | 8          |
| EU                                          | 284(a)           | 77(a)      | 361(a)      | 25(b)      | 10(b)     | 35(b)      | 8(c)      | 1(c)      | 9(c)       | 11         |
| France                                      | 99               | 23         | 122         | 12         | 9         | 21         | 5         | 2         | 7          | 7          |
| Germany                                     | 139              | 35         | 174         | 24         | 11        | 35         | 12        | 5         | 17         | 14         |
| India                                       | 15               | 2          | 17          | 0          | 1         | 1          | 0         | 1         | 1          | 1          |
| Italy                                       | 94               | 13         | 107         | 5          | 1         | 6          | 3         | 0         | 3          | 3          |
| Japan                                       | 112              | 20         | 132         | 17         | 4         | 21         | 6         | 3         | 9          | 9          |
| Korea                                       | 13               | 8          | 21          | 1          | 0         | 4          | 1         | 0         | 0          | 0          |
| New Zealand                                 | 15               | 5          | 20          | 3          | 1         | 4          | 1         | 0         | 1          | 0          |
| Norway                                      | 11               | 3          | 14          | 0          | 0         | 0          | 0         | 0         | 0          | 0          |
| Switzerland                                 | 54               | 9          | 63          | 7          | 2         | 9          | 3         | 0         | 3          | 3          |
| UK                                          | 188              | 34         | 222         | 27         | 4         | 31         | 12        | 2         | 14         | 16         |
| USA                                         | 466              | 125        | 591         | 51         | 27        | 78         | 19        | 10        | 29         | 29         |
| Non MSPs                                    | 137(a')          | 30(a')     | 167(a')     | 13(b')     | 2(b')     | 15(b')     | 6(c')     | 0(c')     | 6(c')      | 6          |
| <b>TOTAL</b>                                | <b>1791</b>      | <b>424</b> | <b>2215</b> | <b>211</b> | <b>83</b> | <b>294</b> | <b>81</b> | <b>28</b> | <b>109</b> | <b>109</b> |

\*this column takes into account movements of team members (5) since the application.

These numbers are used for the individual countries summaries.

#### (a) EU Letter of Intent

PG: Austria 13, Belgium 14, Czech Republic 10, Denmark 23, Estonia 1, Finland 10, Greece 4, Hungary 9, Ireland 10, Lithuania 1, The Netherlands 54, Poland 2, Portugal 10, Romania 1, Slovakia 1, Slovenia 4, Spain 87, Sweden 30

YI: Austria 4, Belgium 3, Czech Republic 2, Denmark 2, Finland 3, Greece 1, Hungary 1, Ireland 5, The Netherlands 18, Portugal 4, Slovakia 1, Spain 22, Sweden 11

#### b) EU Invited

PG: Austria 2, Belgium 1, Czech Republic 1, Denmark 4, Ireland 2, The Netherlands 6, Slovenia 1, Spain 6, Sweden 2

YI: Belgium 1, Denmark 1, The Netherlands 1, Portugal 1, Spain 5, Sweden 1

#### (c) EU Awarded

PG: Austria 1, Belgium 1, Czech Republic 1, Denmark 2, Spain 2, Sweden 1

YI: Portugal 1

#### (a') Non MSPs Letter of Intent

PG: Argentina 6, Bangladesh 2, Brazil 12, Brunei 1, Cambodia 1, Chile 3, China (China includes Hong Kong) 9, Croatia 1, Ecuador 1, Iceland 1, Israel 53, Kazakhstan 1, Mexico 6, Monaco 1, Nigeria 1, Panama 1, Philippines 1, Russia 3, Saudi Arabia 2, Senegal 1, Singapore 7, South Africa 6, Taiwan 2, Thailand 6, Turkey 5, Ukraine 3, Zambia 1

YI: Argentina 1, Brazil 3, Chile 3, China (China includes Hong Kong) 3, Colombia 1, Croatia 1, Iceland 1, Israel 8, Peru 1, Saudi Arabia 1, Singapore 2, South Africa 1, Taiwan 1, Turkey 3

#### (b') Non MSPs Invited

PG: Brazil 1, Israel 6, Mexico 1, Panama 1, Singapore 2, Taiwan 1, Turkey 1

YI: Israel 2

#### (c') Non MSPs Awarded

PG: Israel 4, Panama 1, Turkey 1

# 2.5

## THE 2013 REVIEW COMMITTEE FOR RESEARCH GRANTS



*Jyotsna Dhawan, Chair of the  
Research Grant Review Committee*

### **Chair**

**Jyotsna DHAWAN**, National Center for Biological Sciences, Bangalore, India

### **Vice-Chair**

**Declan BATES**, University of Exeter, United Kingdom

### **Australia**

**Robert SAINT**, University of Melbourne, Victoria

### **Canada**

**Nancy FORDE**, Simon Fraser University, Burnaby

### **European Union**

**Pieter MEDENDORP**,  
Radboud University Nijmegen, The Netherlands

**Barbara C. NAWROT**,  
Polish Academy of Sciences, Lodz, Poland

### **France**

**Hidde DE JONG**, INRIA, Saint-Ismier

**Sophie ZINN-JUSTIN**, Institute of Biology and  
Technology Saclay, Gif-sur-Yvette

### **Germany**

**Jan LOHMANN**, University of Heidelberg

**Christoph SCHMIDT**, Georg-August-University,  
Goettingen

**Ulrich SCHWARZ**, University of Heidelberg

### **India**

**Jyotsna DHAWAN**, National Center for Biological Sciences, Bangalore

**Anna GEORGE**, National Institute of Immunology,  
New Delhi

### **Italy**

**Leonardo CHELAZZI**, University of Verona

### **Japan**

**Masataka KINJO**, Hokkaido University, Sapporo

### **Republic of Korea**

**Yunje CHO**, Pohang University of Science and  
Technology, Hyoja Dong

### **New Zealand**

**John David FRASER**, University of Auckland

### **Norway**

**Gareth GRIFFITHS**, University of Oslo

### **Switzerland**

**Carl PETERSEN**, Faculty of Life Sciences /EPFL,  
Lausanne

### **United Kingdom**

**Declan BATES**, University of Exeter

### **United States of America**

**Ivet BAHAR**, University of Pittsburgh

**Cheng-Ming CHIANG**,  
UT Southwestern Medical Center, Dallas

**Mary DICKINSON**,  
Baylor College of Medicine, Houston

**Boris SHRAIMAN**,  
University of California, Santa Barbara

**Wendy SUZUKI**, New York University

**Elizabeth SZTUL**,  
University of Alabama at Birmingham

### **Other**

**Misha TSODYKS**,  
Weizmann Institute of Science, Rehovot, Israel

### **Delegate from the Council of Scientists**

**Salvatore OLIVIERO**,  
Human Genetics Foundation, Turin, Italy



## CHAPTER 3



# Program Highlights



- 3.1 HFSP Nakasone Award
- 3.2 Awardees Meeting
- 3.3 Communications and outreach
- 3.4 Honours and prizes

*Left to right: Guntram Bauer, Rosalyn Huie (Communications) and Xavier Schneider (IT manager and webmaster)*

# 3.1

## HFSP NAKASONE AWARD



*Stephen Quake, Stanford University, USA,  
recipient of the Nakasone Award 2013*

### **The 2013 HFSP Nakasone Award to Stephen Quake of Stanford University**

The idea of establishing the prestigious HFSP Nakasone Award was proposed in July 2009 when HFSP held its 20th anniversary celebrations in Tokyo in the presence of former Prime Minister Nakasone. The award honours his vision in launching a program of support for international collaboration and in fostering early career scientists in a global context.

The HFSP Nakasone Award recognizes scientists who have undertaken frontier-moving research in biology, whether these be conceptual, experimental or technological breakthroughs. Both senior and junior scientists are eligible and peer-recognised excellence is the major criterion for selection. Awardees receive an unrestricted research grant of 10 000 USD, a medal and a personalised certificate. The award ceremony is held at the annual HFSP Awardees Meeting where the awardee delivers the HFSP Nakasone Lecture. The prize is open to all scientists, not only those who have received funding from HFSP programs.

Stephen Quake developed key technologies that are revolutionizing nearly every aspect of the biological sciences. Quake and his group developed a precise method for time-resolved force spectroscopy called FemtoNewton Force Spectroscopy which enables a deeper understanding of both colloidal

hydrodynamics and DNA force fluctuations. He was also the first to demonstrate single molecule DNA sequencing and successfully commercialized not only the first single molecule sequencer, but also the first sequencer capable of sequencing the human genome by means of a single instrument. His pioneering efforts extend to the field of microfluidics and its application to biophysics. Microfluidics, which is essentially miniaturized plumbing, offers the possibility of solving outstanding automation issues in biology and chemistry. Stephen Quake's basic research in this area has led to the development of new biophysical measurement technology that is used to address a broad range of questions. One of his seminal contributions in this field was the development of the first microfluidic large-scale integration, fabricating chips with thousands of mechanical valves. This has fundamentally redefined the field.

Stephen Quake has used this new technology to explore a number of questions of fundamental biophysical interest, such as the development of physics-based approaches to protein crystallization and structural biology, the application of molecular affinity measurements to large-scale mapping of transcription-factor binding properties and the development of single cell genomics.

# 3.2

## AWARDEES MEETING

### 12th HFSP Awardees Meeting, Daegu, Republic of Korea, 1-4 July 2012

HFSP Awardees Meetings have become important events in the HFSP calendar. The aim is to bring together grant, fellowship and Career Development Award holders from all over the world and from different scientific disciplines in order to present and discuss their work. These interactions have become a source of inspiration for awardees and have led to new collaborations. The meetings have thus become an integral element in strengthening the HFSP community, creating an international network of scientists at all stages of their careers and on all fronts of the biological frontiers.

The scientific sessions were held at EXCO exhibition and convention centre in Daegu. Current Long-Term and Cross-Disciplinary Fellows, Young Investigator and Program Grant holders and Career Development Awardees were invited. In all, there were 23 oral presentations and 93 poster presentations. In addition to the 168 awardees, about 30 scientists from Korean institutes and universities attended.



*Gina Turrigiano receives the 2012 HFSP Nakasone Award from HFSP President Nobutaka Hirokawa at the 12th HFSP Awardees Meeting in Daegu, Republic of Korea*

The generous hospitality of the Korean hosts was very much appreciated by delegates. Participants particularly enjoyed the farewell evening with a traditional Korean dinner in the gardens of the historic Hyanggyo Confucian Academy – an unforgettable event.

The meeting opened with the Nakasone Award ceremony and a lecture delivered by the Award winner Gina Turrigiano from Brandeis University on “The self-tuning neuron: homeostatic synaptic scaling in developing cortical networks”.

Other program highlights were the talks by Jason Chin (Laboratory of Molecular Biology, Cambridge, UK) on “Reprogramming the genetic code” and by Judith Armitage (University of Oxford, UK) who gave an Olympic perspective to her presentation of “Rotary motors, protein dynamics and bacterial behaviour”.

An inspiring special lecture was presented by Kil-Choo Moon, President of KIST of the Republic of Korea. He challenged participants with a talk “We are living in a changing society”.

Much appreciated was a new lunch format, bringing together members of the Council with CDA, Young Investigator and fellowship awardees for informal exchanges during the mid day break. HFSP Directors continued the tradition of informal talks on career development and grant writing; both sessions attracted large audiences.

“I think the biggest advantage is to see what else is out there as we tend to get very lost in our own little niche. At my poster I was asked questions that were very important and valid but that would not have been asked by a more specialized audience. Opening up your horizon always helps...”

“The principal advantage is to meet colleagues worldwide in other fields. The keyword would be networking. My expectations were fulfilled because I met people from around the world working on fascinating projects who may become new collaborators in the future. Last but not least, it was great to have the opportunity to get to know such an awesome country as Korea.”

“The breadth and excellence one can experience at HFSP Awardees meeting is refreshing. This being my first meeting, I had expectations of connecting with other awardees, finding collaborators, learning how people do quantitative biology, and how to chart the next steps in my career. On all these counts, I received valuable input.”

# 3.3

## COMMUNICATIONS



*Left to right: Kentaro Shimizu, Tobias Walther, Tadashi Uemura and Gohta Goshima at an HFSP seminar at the 35<sup>th</sup> Annual Meeting of the Molecular Biology Society of Japan (MBSJ)*

The HFSP web site, redesigned two years ago, continues to attract significant traffic. Between 800-1500 visitors spend on average a little more than three minutes on our site every week. The section featuring awardees articles is the most attractive, except in March and April when visitors are eager to see the newly announced awards. HFSP's social media channels are consulted more frequently than ever; early in 2013 our Facebook page passed the 1000 'likes' mark and we have more than 400 followers on Twitter. Early in 2013 we published the first issue of the redesigned newsletter, HFSP Matters. The diversity of topics was very well received, as is evident from an increase in subscriptions. More than 1600 subscribers are waiting for the second issue which will be published in Spring 2013.

In September 2012, we were present with an information booth at the joint IUBMB-FEBS annual meeting in Seville, Spain and at the EMBO meeting in Nice, France. During both conferences, hundreds of scientists and a number of journalists, showed their interest in HFSP's scientific programs. In February we were present for the first time in the exhibition hall of the AAAS Meeting in Boston, Massachusetts. This outreach activity was much appreciated by American students and scientists, many of whom had never heard about HFSP before.

A special occasion was the first meeting of US based HFSP alumni at the Koch Institute for Integrated Cancer Research. Prof. Phil Sharp hosted some 60 participants in the newly designed institute located in the centre of the MIT campus in Cambridge, MA.

We continued our outreach efforts to promote the Program in Japan with a new initiative. During the 35th Annual Meeting of the Molecular Biology Society of Japan (MBSJ), HFSP grant awardees Gohta Goshima and Tadashi Uemura organized a "Frontiers in Science" luncheon seminar with two HFSP speakers: Tobias Walther, Yale University, and Kentaro K. Shimizu, University of Zürich. Prof. Nobutaka Hirokawa, HFSP President, gave an introductory talk about HFSP's funding mechanisms.

## **HFSP participation in scientific meetings and science policy meetings**

### **2012**

**Euroscience Open Forum (ESOF)**  
11-15 July, Dublin, Ireland

**Gesellschaft zur Foerderung der Forschung (GFF), Bundesministerium fuer Wissenschaft und Forschung (BM.W\_F) and Bundesministerium fuer Verkehr, Innovation und Technologie (BMVIT) Europaeisches Forum Innovations-Gipfl**  
22 August, Alpbach, Germany

**Booth at IUBMB - FEBS Congress 2012**  
4-9 September, Seville, Spain

**German Academic International Network (GAIN) Conference**  
7-9 September, Boston, USA

**Link2US and BILAT-USA: U.S.-E.U. Research Cooperation Stakeholders Roundtable**  
19 September, Washington, USA

**Booth at The EMBO Meeting 2012**  
22-25 September, Nice, France

**Bioenergie: Moglichkeiten und Grenzen, Leopoldina National Academy of Sciences**  
7 November, Berlin, Germany

**Inaugural symposium of the Institute of Advanced Studies (USIAS)**  
24 November, Strasbourg, France

**Annual Meeting of the Institute for Research Information and Quality (IFQ)**  
17-18 December, Berlin, Germany

### **2013**

**Ringberg Conference, Academia meets Industry – Industry meets Academia**  
2-4 January, Ringberg, Germany

**HFSP Lecture at Nagoya University**  
9 January, Nagoya, Japan

**Presentation at National Science Foundation**  
11 February, Arlington, USA

**HFSP Alumni meeting**  
13 February, Cambridge, USA

**Booth at 2013 AAAS Annual Meeting**  
15-17 February, Boston, USA

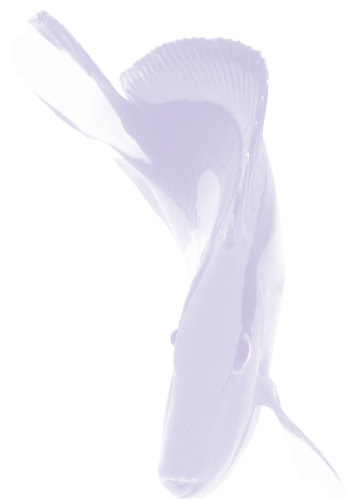


# 3.4

## HONOURS AND AWARDS

### HFSP GRANTEES AWARDED THE NOBEL PRIZE

|                             | Grant awarded       | Nobel Prize                   |
|-----------------------------|---------------------|-------------------------------|
| Christiane NÜSSLEIN-VOLHARD | 1993                | 1995 (Physiology or Medicine) |
| Rolf ZINKERNAGEL            | 1994                | 1996 (Physiology or Medicine) |
| Stanley PRUSINER            | 1994                | 1997 (Physiology or Medicine) |
| John WALKER                 | 1996                | 1997 (Chemistry)              |
| Steven CHU                  | 1993                | 1997 (Physics)                |
| Paul NURSE                  | 1994                | 2001 (Physiology or Medicine) |
| Tim HUNT                    | 1992/1997           | 2001 (Physiology or Medicine) |
| John SULSTON                | 1991                | 2002 (Physiology or Medicine) |
| Peter AGRE                  | 2000                | 2003 (Chemistry)              |
| Linda BUCK                  | 1995                | 2004 (Physiology or Medicine) |
| Avram HERSHKO               | 1998                | 2004 (Chemistry)              |
| Roger KORNBERG              | 1990/1993/1997/2000 | 2006 (Chemistry)              |
| Roger TSIEN                 | 1995                | 2008 (Chemistry)              |
| Jack SZOSTAK                | 2000                | 2009 (Physiology or Medicine) |
| Venkatraman RAMAKRISHNAN    | 2000/2009           | 2009 (Chemistry)              |
| Ada YONATH                  | 2003                | 2009 (Chemistry)              |
| Jules HOFFMANN              | 1995                | 2012 (Physiology or Medicine) |
| Ralph STEINMAN              | 1996, 2006          | 2012 (Physiology or Medicine) |



The following section lists awards and prizes to HFSP awardees that have come to our attention in FY 2012\*.

| Name | Nationality | Current affiliation | Year of HFSP award |
|------|-------------|---------------------|--------------------|
|------|-------------|---------------------|--------------------|

## AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### MEMBERS

### BIOLOGICAL SCIENCES

|                            |           |                                                      |                                               |
|----------------------------|-----------|------------------------------------------------------|-----------------------------------------------|
| Thomas BRUTNELL            | USA       | Donald Danforth Plant Science Center, St. Louis, USA | Short-Term Fellowship 1999                    |
| Xing Wang DENG             | USA       | Yale University, New Haven, USA                      | Research Grant 1997                           |
| Jeffrey Wade HARPER        | USA       | Harvard Medical School, Boston, USA                  | Research Grant 1999                           |
| Valerian KAGAN             | USA       | University of Pittsburgh, USA                        | Program Grant 2005                            |
| Kunxin LUO                 | USA       | University of California, Berkeley, USA              | Research Grant 1999                           |
| Thomas Friedrich SCHILLING | USA       | University of California, Irvine, USA                | Long-Term Fellowship 1995                     |
| Nahum SONENBERG            | Canada    | McGill University, Montreal, Canada                  | Research Grant 1995, 1998, Program Grant 2005 |
| William TANSEY             | Australia | Vanderbilt Medical Center, Nashville, USA            | Long-Term Fellowship 1992                     |

### NEUROSCIENCES

|                   |        |                                                             |                                         |
|-------------------|--------|-------------------------------------------------------------|-----------------------------------------|
| Randy Lee BUCKNER | USA    | Harvard University, Cambridge, USA                          | Research Grant 1997                     |
| Pietro DE CAMILLI | USA    | Yale University School of Medicine, New Haven, USA          | Research Grant 1995, Program Grant 2002 |
| Yadin DUDAI       | Israel | Weizmann Institute of Science, Rehovot, Israel              | Program Grant 2001                      |
| David KLEINFELD   | USA    | University of California, San Diego, La Jolla, USA          | Program Grant 2004                      |
| Hiroaki MATSUNAMI | Japan  | Duke University Medical Center, Durham, USA                 | Young Investigator 2006                 |
| David McCORMICK   | USA    | Yale University School of Medicine, New Haven, USA          | Research Grant 1996, 2000               |
| Elisabeth MURRAY  | USA    | National Institute of Mental Health, Bethesda, USA          | Research Grant 1993                     |
| Nelson SPRUSTON   | Canada | Howard Hughes Medical Institute, Janelia Farm, Ashburn, USA | Research Grant 1996                     |

### PSYCHOLOGY

|                  |     |                                      |                     |
|------------------|-----|--------------------------------------|---------------------|
| Steven LUCK      | USA | University of California, Davis, USA | Research Grant 1997 |
| Laurence MALONEY | USA | New York University, USA             | Research Grant 1999 |

## ACADÉMIE DES SCIENCES

### RICHARD LOUNSBERY AWARD

|                  |        |                                         |                                         |
|------------------|--------|-----------------------------------------|-----------------------------------------|
| Olivier POURQUIE | France | IGBMC, University of Strasbourg, France | Research Grant 1999, Program Grant 2012 |
|------------------|--------|-----------------------------------------|-----------------------------------------|

### LAMONICA PRIZE FOR NEUROLOGY

|                  |        |                                         |                     |
|------------------|--------|-----------------------------------------|---------------------|
| Brigitte KIEFFER | France | IGBMC, University of Strasbourg, France | Research Grant 2000 |
|------------------|--------|-----------------------------------------|---------------------|

## ACADEMY OF MEDICAL SCIENCES

### FELLOWS

|                  |         |                                     |                                                |
|------------------|---------|-------------------------------------|------------------------------------------------|
| Simon BOULTON    | UK      | Cancer Research UK, South Mimms, UK | Long-Term Fellowship 1998                      |
| Michael HAUSER   | Canada  | University College London, UK       | Long-Term Fellowship 1995, Research Grant 2000 |
| Penelope JEGGO   | UK      | University of Sussex, Brighton, UK  | Research Grant 1997, Program Grant 2002        |
| Gero MIESENBOECK | Austria | University of Oxford, UK            | Program Grant 2007                             |
| Anne RIDLEY      | UK      | King's College London, UK           | Research Grant 1996                            |

## ALEXANDER VON HUMBOLT FOUNDATION

### SOFJA KOVALEVSKAJA AWARD

|               |         |                                       |                           |
|---------------|---------|---------------------------------------|---------------------------|
| Samuel WAGNER | Germany | University Hospital Tübingen, Germany | Long-Term Fellowship 2009 |
|---------------|---------|---------------------------------------|---------------------------|

\* It should be noted that Research Grants were awarded up until 2001 when Program Grants and Young Investigator Grants were introduced. The Short-Term Fellowship program was terminated in April 2010.

## AMERICAN ACADEMY OF ARTS AND SCIENCES

| FELLOWS                 |                 |                                                           |                           |
|-------------------------|-----------------|-----------------------------------------------------------|---------------------------|
| Edward CALLAWAY         | USA             | The Salk Institute for Biological Sciences, La Jolla, USA | Program Grant 2009        |
| John CARLSON            | USA             | Yale University, New Haven, USA                           | Research Grant 1994, 1997 |
| Thomas CURRAN           | USA             | University of Pennsylvania, Philadelphia, USA             | Research Grant 1998       |
| Sarah ELGIN             | USA             | Washington University of St. Louis, USA                   | Research Grant 1997       |
| Michael KEARNS          | USA             | University of Pennsylvania, Philadelphia, USA             | Program Grant 2006        |
| Mitzi KURODA            | USA             | Harvard Medical School, Boston, USA                       | Research Grant 1997       |
| Richard LIFTON          | USA             | Yale University, New Haven, USA                           | Research Grant 1996, 2000 |
| Liqun LUO               | USA             | Stanford University, USA                                  | Program Grant 2001, 2007  |
| Diane MATHIS            | USA             | Harvard Medical School, Boston, USA                       | Research Grant 1994       |
| Larry SIMPSON           | USA             | University of California, Los Angeles, USA                | Research Grant 1999       |
| FOREIGN HONORARY MEMBER |                 |                                                           |                           |
| Johannes CLEVERS        | The Netherlands | Hubrecht Institute, Utrecht, The Netherlands              | Research Grant 1998       |

## AMERICAN PHILOSOPHICAL SOCIETY

| MEMBER            |     |                                           |                                               |
|-------------------|-----|-------------------------------------------|-----------------------------------------------|
| Cornelia BARGMANN | USA | The Rockefeller University, New York, USA | Research Grant 1992, 1997, Program Grant 2001 |

## BOEHRINGER INGELHEIM FENS

| BOEHRINGER INGELHEIM FENS RESEARCH AWARD |         |                                                                                                                |                           |
|------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------|---------------------------|
| Ilka DIESTER                             | Germany | Ernst Strüngmann Institute for Neuroscience in cooperation with Max Planck Society, Frankfurt am Main, Germany | Long-Term Fellowship 2009 |

## BREAKTHROUGH PRIZE IN LIFE SCIENCES FOUNDATION

| BREAKTHROUGH PRIZE IN LIFE SCIENCES |                 |                                              |                                               |
|-------------------------------------|-----------------|----------------------------------------------|-----------------------------------------------|
| Cornelia BARGMANN                   | USA             | The Rockefeller University, New York, USA    | Research Grant 1992, 1997, Program Grant 2001 |
| Titia DE LANGE                      | The Netherlands | The Rockefeller University, New York, USA    | Research Grant 1997                           |
| Johannes CLEVERS                    | The Netherlands | Hubrecht Institute, Utrecht, The Netherlands | Research Grant 1998                           |

## CNRS

| SILVER MEDAL         |        |                                                                               |                                               |
|----------------------|--------|-------------------------------------------------------------------------------|-----------------------------------------------|
| BIOLOGICAL SCIENCES  |        |                                                                               |                                               |
| Marat YUSUPOV        | France | IGBMC, University of Strasbourg, France                                       | Program Grant 2006, 2012                      |
| Marie-Anne FELIX     | France | École Normale Supérieure, Paris, France                                       | Long-Term Fellowship 1994, Program Grant 2001 |
| PRIX CLAUDE PAOLETTI |        |                                                                               |                                               |
| Manuel THERY         | France | CEA/ Institute for Research in Technology for Life Sciences, Grenoble, France | Young Investigator 2012                       |

## PAUL EHRLICH FOUNDATION

| PAUL EHRLICH & LUDWIG DARMSTAEDTER PRIZE FOR YOUNG RESEARCHERS |    |                                                              |                           |
|----------------------------------------------------------------|----|--------------------------------------------------------------|---------------------------|
| James POULET                                                   | UK | Max-Delbrueck-Center for Molecular Medicine, Berlin, Germany | Long-Term Fellowship 2005 |

## EUROPEAN MOLECULAR BIOLOGY ORGANISATION

| MEMBERS                    |                |                                                                        |                                                          |
|----------------------------|----------------|------------------------------------------------------------------------|----------------------------------------------------------|
| Monsef BENKIRANE           | Morocco        | CNRS Institute of Human Genetics, Montpellier, France                  | Young Investigator 2003                                  |
| Cédric BLANPAIN            | Belgium        | Free University of Brussels, Belgium                                   | Long-Term Fellowship 2003, Career Development Award 2006 |
| Paola BOVOLENTA            | Italy/Spain    | Centre for Molecular Biology 'Severo Ochoa', Madrid, Spain             | Program Grant 2001                                       |
| Francesco CECCONI          | Italy          | University 'Tor Vergata' and IRCCS Fondazione Santa Lucia, Rome, Italy | Long-Term Fellowship 1996, Short-Term Fellowship 2000    |
| Fabrizio D'ADDA DI FAGAGNA | Italy          | IFOM Foundation, Milan, Italy                                          | Program Grant 2007, 2012                                 |
| Ludger JOHANNES            | Germany/France | Institut Curie, Paris, France                                          | Program Grant 2007                                       |
| Kai JOHNSSON               | Germany        | Swiss Federal Institute of Technology, Lausanne, Switzerland           | Program Grant 2004                                       |
| Michel LABOUESSE           | France         | IGBMC, University of Strasbourg, France                                | Long-Term Fellowship 1991, Research Grant 1993           |
| Andreas LADURNER           | Italy          | Ludwig Maximilians University, Munich, Germany                         | Young Investigator 2006                                  |
| Nils-Göran LARSSON         | Sweden         | Max-Planck Institute for Biology of Aging, Cologne, Germany            | Research Grant 1999                                      |
| Laura MACHESKY             | USA            | Beatson Institute for Cancer Research, Glasgow, UK                     | Research Grant 2000                                      |
| Nancy PAPALOPULU           | Greece         | University of Manchester, UK                                           | Long-Term Fellowship 1992                                |
| Thomas PREAT               | France         | ESPCI ParisTech, France                                                | Long-Term Fellowship 1992, Research Grant 2000           |
| François SCHWEISGUTH       | France         | Institut Pasteur, Paris, France                                        | Long-Term Fellowship 1991                                |
| Luca SCORRANO              | Italy          | University of Geneva, Switzerland                                      | Long-Term Fellowship 2000, Career Development Award 2004 |
| Thomas SURREY              | Germany        | Cancer Research UK, London, UK                                         | Program Grant 2008                                       |
| Sabine WERNER              | Germany        | Institute of Molecular Health Services, Zurich, Switzerland            | Long-Term Fellowship 2000, Career Development Award 2004 |
| YOUNG INVESTIGATOR         |                |                                                                        |                                                          |
| Sonia GAREL                | France         | Ecole Normale Supérieure, Paris, France                                | Long-Term Fellowship 2000, Career Development Award 2005 |
| Ilona GRUNWALD-KADOW       | Germany        | Max Planck Institute of Neurobiology, Martinsried, Germany             | Long-Term Fellowship 2004, Career Development Award 2008 |
| Massimo LOPES              | Italy          | University of Zurich, Switzerland                                      | Long-Term Fellowship 2002                                |
| Guillermo LÓPEZ-BENDITO    | Spain          | University of Miguel Hernandez-CSIC, Alicante, Spain                   | Program Grant 2008                                       |
| Evanthia SOUTOGLOU         | Greece         | IGBMC, University of Strasbourg, France                                | Long-Term Fellowship 2003, Career Development Award 2009 |
| Alexander STARK            | Germany        | Research Institute of Molecular Pathology (IMP), Vienna, Austria       | Long-Term Fellowship 2006                                |

## EUROPEAN RESEARCH COUNCIL

| ADVANCED GRANTS               |                 |                                                                 |                                             |
|-------------------------------|-----------------|-----------------------------------------------------------------|---------------------------------------------|
| Philippe Igor Henri BASTIAENS | The Netherlands | Max-Planck Institute of Molecular Physiology, Dortmund, Germany | Young Investigator 2002, Program Grant 2009 |
| Oded BEJA                     | Israel          | Israel Institute of Technology (Technion), Haifa, Israel        | Program Grant 2002                          |
| Mathias BRUST                 | Germany         | University of Liverpool, UK                                     | Program Grant 2005                          |
| Enrico COEN                   | UK              | John Innes Centre, Norwich, UK                                  | Research Grant 1991, Program Grant 2001     |
| Stephen CUSACK                | UK              | EMBL, Grenoble, France                                          | Program Grant 2001                          |
| Fabrizio D'ADDA DI FAGAGNA    | Italy           | IFOM Foundation, Milan, Italy                                   | Program Grant 2007, 2012                    |
| Eileen FURLONG                | Ireland         | EMBL, Heidelberg, Germany                                       | Program Grant 2008                          |
| Douglas HANAHAN               | USA             | Swiss Federal Institute of Technology, Lausanne, Switzerland    | Research Grant 1994                         |
| Christine Elisabeth HOLT      | UK              | University of Cambridge, UK                                     | Program Grant 2009                          |

## EUROPEAN RESEARCH COUNCIL

| ADVANCED GRANTS         |         |                                                                            |                                                          |
|-------------------------|---------|----------------------------------------------------------------------------|----------------------------------------------------------|
| Karl-Peter HOPFNER      | Germany | Ludwig Maximilians University Munich, Germany                              | Young Investigator 2005                                  |
| Arthur KONNERTH         | Germany | Technical University Munich, Germany                                       | Research Grant 1991, 1997                                |
| Gilles Jean LAURENT     | France  | Max Planck Institute for Brain Research, Frankfurt, Germany                | Research Grant 1990                                      |
| Thomas LECUIT           | France  | CNRS, IBDML - Development Biology Institute of Marseille Luminy, France    | Long-Term Fellowship 1999, Program Grant 2008            |
| Manfred LINDAU          | Germany | Max Planck Institute for Biophysical Chemistry, Göttingen, Germany         | Research Grant 1998                                      |
| Hanah MARGALIT          | Israel  | The Hebrew University of Jerusalem, Israel                                 | Research Grant 1999                                      |
| Richard MILES           | UK      | Brain and Spine Institute, Hôpital Pitié-Salpêtrière, Paris, France        | Research Grant 1991, 1995                                |
| Birger Lindberg MØLLER  | Denmark | University of Copenhagen, Denmark                                          | Program Grant 2005                                       |
| Victor MUÑOZ            | Spain   | Center for Biological Investigations, CSIC, Madrid, Spain                  | Long-Term Fellowship 1996                                |
| Ulo NIINEMETS           | Estonia | Estonian University of the Life Sciences, Tartu, Estonia                   | Program Grant 2006                                       |
| Lars OLSON              | Sweden  | Karolinska Institute, Stockholm, Sweden                                    | Research Grant 1999                                      |
| Manolis PASPARAKIS      | Greece  | University of Cologne, Germany                                             | Young Investigator 2005                                  |
| Sheena RADFORD          | UK      | University of Leeds, UK                                                    | Program Grant 2012                                       |
| Dmitri RUSAKOV          | UK      | University College London, UK                                              | Program Grant 2006                                       |
| Thomas SURREY           | Germany | Cancer Research UK, London Research Institute, UK                          | Program Grant 2008                                       |
| Shahragim TAJBAKHS      | Canada  | Institut Pasteur, Paris, France                                            | Research Grant 1998                                      |
| Tomoyuki TANAKA         | Japan   | University of Dundee, UK                                                   | Young Investigator 2005, Program Grant 2009              |
| Karen VOUSDEN           | UK      | The Beatson Institute for Cancer Research, Glasgow, UK                     | Research Grant 1996                                      |
| Ada YONATH              | Israel  | Weizmann Institute of Science, Rehovot, Israel                             | Program Grant 2003                                       |
| STARTING GRANTS         |         |                                                                            |                                                          |
| Ido AMIT                | Israel  | Weizmann Institute of Science, Rehovot, Israel                             | Long-Term Fellowship 2008, Career Development Award 2011 |
| Gad ASHER               | Israel  | Weizmann Institute of Science, Rehovot, Israel                             | Long-Term Fellowship 2007, Career Development Award 2012 |
| Anne BERTOLOTTI         | France  | Medical Research Council, Cambridge, UK                                    | Long-Term Fellowship 1999                                |
| Victor BORRELL          | Spain   | Neuroscience Institute, CSIC, San Juan de Alicante, Spain                  | Long-Term Fellowship 2001, Career Development Award 2007 |
| Rut CARBALLIDO LOPEZ    | Spain   | INRA, Jouy-en-Josas, France                                                | Long-Term Fellowship 2003, Young Investigator 2009       |
| Alessio CIULLI          | Italy   | University of Cambridge, UK                                                | Short-Term Fellowship 2008                               |
| Damien COUDREUSE        | France  | Institute of Genetics and Development of Rennes (IGDR), France             | Long-Term Fellowship 2008                                |
| Filippo DEL BENE        | Italy   | Institut Curie, Paris, France                                              | Long-Term Fellowship 2005                                |
| Ulrike Sophie EGGERT    | Germany | King's College London, UK                                                  | Young Investigator 2009                                  |
| Wulf HAUBENSAK          | Germany | Research Institute of Molecular Pathology (IMP), Vienna, Austria           | Long-Term Fellowship 2004                                |
| Patrick HEUN            | Germany | Max-Planck Institute of Immunobiology and Epigenetics, Freiburg, Germany   | Long-Term Fellowship 2002, Career Development Award 2006 |
| Michael HOTHORN         | Germany | Friedrich Miescher Laboratory of the Max Planck Society, Tübingen, Germany | Long-Term Fellowship 2008, Career Development Award 2012 |
| François LEULIER        | France  | CNRS, Université Aix-Marseille II, France                                  | Long-Term Fellowship 2004                                |
| Rune LINDING            | Denmark | The Technical University of Denmark, Lyngby, Denmark                       | Long-Term Fellowship 2005, Career Development Award 2010 |
| Esben LORENTZEN         | Denmark | Max-Planck Institute of Biochemistry, Martinsried, Germany                 | Long-Term Fellowship 2007                                |
| Daniela MATIC-VIGNJEVIC | Serbia  | Institut Curie, Paris, France                                              | Long-Term Fellowship 2004                                |
| Matthew NEALE           | UK      | University of Sussex, Brighton, UK                                         | Long-Term Fellowship 2004, CDA 2010                      |

| STARTING GRANTS |         |                                                                               |                                                           |
|-----------------|---------|-------------------------------------------------------------------------------|-----------------------------------------------------------|
| Ewa PALUCH      | Poland  | Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany | Young Investigator 2008                                   |
| Matthieu PIEL   | France  | Institut Curie, Paris, France                                                 | Long-Term Fellowship 2002, Young Investigator 2007        |
| Aurélien ROUX   | France  | University of Geneva, Science II, Switzerland                                 | Long-Term Fellowship 2005, Career Development Award 2008, |
| Elad SCHNEIDMAN | Israel  | Weizmann Institute of Science, Rehovot, Israel                                | Program Grant 2012                                        |
| Frank SCHNORRER | Germany | Max-Planck-Institute of Biochemistry, Martinsried, Germany                    | Long-Term Fellowship 2003, Career Development Award 2009  |
| Manuel THERY    | France  | CEA/ Institute for Research in Technology for Life Sciences, Grenoble, France | Young Investigator 2012                                   |
| Mihaela ZAVOLAN | Romania | Biozentrum, University of Basel, Switzerland                                  | Program Grant 2012                                        |

## FEBS/EMBO

| WOMEN IN SCIENCE AWARD |             |                                                                                        |                                          |
|------------------------|-------------|----------------------------------------------------------------------------------------|------------------------------------------|
| Susan GASSER           | Switzerland | Friedrich Miescher Institute for Biomedical Research, University of Basel, Switzerland | Research Grant 1991, Research Grant 1996 |

## GAIRDNER FOUNDATION

| CANADA GAIRDNER INTERNATIONAL AWARD |     |                                                                       |                           |
|-------------------------------------|-----|-----------------------------------------------------------------------|---------------------------|
| Jeffrey HALL                        | USA | Brandeis University, Waltham, USA                                     | Research Grant 1991, 2000 |
| Thomas JESSELL                      | UK  | Columbia University College of Physicians and Surgeons, New York, USA | Program Grant 2001        |

## GERMAN RESEARCH COUNCIL

| LEIBNIZ PRIZE 2012 |         |                                                             |                    |
|--------------------|---------|-------------------------------------------------------------|--------------------|
| Michael BRECHT     | Germany | Humboldt University, Berlin, Germany                        | Program Grant 2004 |
| Matthias MANN      | Germany | Max-Planck Institute for Biochemistry, Martinsried, Germany | Program Grant 2001 |

## GRUBER FOUNDATION

| NEUROSCIENCE PRIZE |     |                                              |                     |
|--------------------|-----|----------------------------------------------|---------------------|
| Lily JAN           | USA | University of California, San Francisco, USA | Research Grant 1997 |

## INSTITUTE OF MEDICINE

| MEMBER           |     |                                                                                                    |                           |
|------------------|-----|----------------------------------------------------------------------------------------------------|---------------------------|
| Dan LITTMAN      | USA | New York University School of Medicine, Skirball Institute of Biomolecular Medicine, New York, USA | Research Grant 1996       |
| Terry MAGNUSON   | USA | University of North Carolina, Chapel Hill, USA                                                     | Research Grant 1995       |
| Marina PICCIOTTO | USA | Yale University School of Medicine, New Haven, USA                                                 | Long-Term Fellowship 1991 |

## JAPAN ACADEMY

| JAPAN ACADEMY PRIZE |       |                                 |                                                          |
|---------------------|-------|---------------------------------|----------------------------------------------------------|
| Masamitsu FUTAI     | Japan | Iwate Medical University, Japan | Research Grant 1990, 1994                                |
| JAPAN ACADEMY MEDAL |       |                                 |                                                          |
| Yukihide TOMARI     | Japan | The University of Tokyo, Japan  | Long-Term Fellowship 2004, Career Development Award 2008 |

## LOUIS JEANTET FOUNDATION

| LOUIS JEANTET PRIZE FOR MEDICINE |         |                                                             |                    |
|----------------------------------|---------|-------------------------------------------------------------|--------------------|
| Matthias MANN                    | Germany | Max-Planck Institute for Biochemistry, Martinsried, Germany | Program Grant 2001 |

## ROBERT KOCH FOUNDATION

| ROBERT KOCH AWARD |       |                                                     |                     |
|-------------------|-------|-----------------------------------------------------|---------------------|
| Tasuku HONJO      | Japan | Kyoto University Graduate School of Medicine, Japan | Research Grant 1990 |

## KÖRBER FOUNDATION

| EUROPEAN SCIENCE PRIZE |         |                                                             |                    |
|------------------------|---------|-------------------------------------------------------------|--------------------|
| Matthias MANN          | Germany | Max-Planck Institute for Biochemistry, Martinsried, Germany | Program Grant 2001 |

## LASKER FOUNDATION

| ALBERT LASKER BASIC MEDICAL RESEARCH AWARD |     |                                    |                                         |
|--------------------------------------------|-----|------------------------------------|-----------------------------------------|
| James SPUDICH                              | USA | Stanford University, USA           | Research Grant 1993, Program Grant 2009 |
| Michael SHEETZ                             | USA | Columbia University, New York, USA | Research Grant 1991                     |

## GRETE LUNDBECK EUROPEAN BRAIN RESEARCH FOUNDATION

| BRAIN PRIZE 2012 |        |                                 |                     |
|------------------|--------|---------------------------------|---------------------|
| Christine PETIT  | France | Institut Pasteur, Paris, France | Research Grant 1999 |

| BRAIN PRIZE 2013 |         |                                                                        |                     |
|------------------|---------|------------------------------------------------------------------------|---------------------|
| Edward BOYDEN    | USA     | Massachusetts Institute of Technology Media Laboratory, Cambridge, USA | Program Grant 2010  |
| Gero MIESENBOCK  | Austria | University of Oxford, UK                                               | Program Grant 2007  |
| Karl DEISSEROTH  | USA     | Stanford University, USA                                               | Nakasone Award 2010 |

## MAX-PLANCK SOCIETY

| OTTO HAHN MEDAL |       |                                        |                           |
|-----------------|-------|----------------------------------------|---------------------------|
| Raunak SINHA    | India | University of Washington, Seattle, USA | Long-Term Fellowship 2012 |

## NATIONAL ACADEMY OF SCIENCES

| MEMBERS         |     |                                                                  |                           |
|-----------------|-----|------------------------------------------------------------------|---------------------------|
| William BIALEK  | USA | Princeton University, USA                                        | Program Grant 2010        |
| John CARLSON    | USA | Yale University, New Haven, USA                                  | Research Grant 1994, 1997 |
| Wah CHIU        | USA | Baylor College of Medicine, Houston, USA                         | Research Grant 1996       |
| Gideon DREYFUSS | USA | University of Pennsylvania School of Medicine, Philadelphia, USA | Research Grant 1998       |
| Liqun LUO       | USA | Stanford University, USA                                         | Program Grant 2001, 2007  |
| Eric SELKER     | USA | University of Oregon, Eugene, USA                                | Research Grant 1995       |
| Eckard WIMMER   | USA | Stony Brook University School of Medicine, USA                   | Research Grant 1993       |

| FOREIGN ASSOCIATES |             |                                                           |                           |
|--------------------|-------------|-----------------------------------------------------------|---------------------------|
| George COUPLAND    | UK          | Max Planck Institute for Plant Breeding, Cologne, Germany | Research Grant 1997       |
| Denis DUBOULE      | Switzerland | University of Geneva, Switzerland                         | Research Grant 1991, 1994 |
| Giacomo RIZZOLATTI | Italy       | University of Parma, Italy                                | Research Grant 1990, 1993 |
| Mitsuhiro YANAGIDA | Japan       | Kyoto University, Japan                                   | Research Grant 1990, 1995 |

## NATIONAL INSTITUTES FOR HEALTH

| NEW INNOVATOR AWARD |               |                                                          |                           |
|---------------------|---------------|----------------------------------------------------------|---------------------------|
| Cliff BRANGWYNNE    | USA/Ireland   | Princeton University, USA                                | Program Grant 2012        |
| Björn LILLEMEIER    | Germany       | The Salk Institute for Biological Studies, La Jolla, USA | Long-Term Fellowship 2002 |
| Sua MYONG           | Rep. of Korea | University of Illinois Urbana-Champaign, USA             | Program Grant 2012        |
| Axel NIMMERJAHN     | Germany       | The Salk Institute for Biological Studies, La Jolla, USA | Long-Term Fellowship 2006 |

## NATIONAL INSTITUTES FOR HEALTH

| PIONEER AWARD |                         |                                                                |                           |
|---------------|-------------------------|----------------------------------------------------------------|---------------------------|
| Anne BRUNET   | France                  | Stanford University, USA                                       | Long-Term Fellowship 1998 |
| Hidde PLOEGH  | The Netherlands/<br>USA | Whitehead Institute for Biomedical Research,<br>Cambridge, USA | Program Grant 2001        |

## NATIONAL SCIENCE FOUNDATION

| NATIONAL MEDAL OF SCIENCE |     |                                                  |                     |
|---------------------------|-----|--------------------------------------------------|---------------------|
| Jan VILCEK                | USA | Langone Medical Center, New York University, USA | Research Grant 1991 |

## NORWEGIAN ACADEMY OF SCIENCE AND LETTERS

| KAVLI PRIZE IN NEUROSCIENCE |         |                                                                   |                                                  |
|-----------------------------|---------|-------------------------------------------------------------------|--------------------------------------------------|
| Cornelia BARGMANN           | USA     | The Rockefeller University, New York, USA                         | Research Grant 1992, 1997,<br>Program Grant 2001 |
| Winfried DENK               | Germany | Max Planck Institute for Medical Research,<br>Heidelberg, Germany | Program Grant 2004                               |
| Ann GRAYBIEL                | USA     | Massachusetts Institute of Technology,<br>Cambridge, USA          | Research Grant 1990                              |

## ROSENSTIEL BASIC MEDICAL SCIENCES RESEARCH CENTER

| LEWIS ROSENSTIEL AWARD FOR DISTINGUISHED WORK IN BASIC MEDICAL SCIENCE |        |                                     |                                                 |
|------------------------------------------------------------------------|--------|-------------------------------------|-------------------------------------------------|
| Nahum SONENBERG                                                        | Canada | McGill University, Montreal, Canada | Research Grant 1995,1998, Program<br>Grant 2005 |

## ROYAL NETHERLANDS ACADEMY OF ARTS AND SCIENCES

| HEINEKEN PRIZE FOR BIOCHEMISTRY AND BIOPHYSICS  |                 |                                                                |                                            |
|-------------------------------------------------|-----------------|----------------------------------------------------------------|--------------------------------------------|
| Titia DE LANGE                                  | The Netherlands | The Rockefeller University, New York, USA                      | Research Grant 1997                        |
| HEINEKEN PRIZE FOR MEDICINE                     |                 |                                                                |                                            |
| Johannes CLEVERS                                | The Netherlands | Hubrecht Institute, Utrecht, The Netherlands                   | Research Grant 1998                        |
| HEINEKEN PRIZE FOR COGNITIVE SCIENCE            |                 |                                                                |                                            |
| John DUNCAN                                     | UK              | University of Cambridge, UK                                    | Research Grant 1991,<br>Program Grant 2001 |
| HEINEKEN YOUNG SCIENTIST AWARD FOR BIOCHEMISTRY |                 |                                                                |                                            |
| Geert VAN DEN BOGAART                           | The Netherlands | Radboud University Medical Centre Nijmegen,<br>The Netherlands | Long-Term Fellowship 2009                  |

## ROYAL SOCIETY

| FELLOW                     |             |                                                              |                                                  |
|----------------------------|-------------|--------------------------------------------------------------|--------------------------------------------------|
| Tony KOUZARIDES            | UK          | University of Cambridge, UK                                  | Research Grant 1998                              |
| Andrew MILLAR              | UK          | University of Edinburgh, UK                                  | Research Grant 1999                              |
| Margaret ROBINSON          | UK          | University of Cambridge, UK                                  | Research Grant 1995                              |
| Krishnaswamy VIJAYRAGHAVAN | India       | National Centre for Biological Sciences,<br>Bangalore, India | Research Grant 1995                              |
| Stephen WITHERS            | Canada      | University of British Columbia, Vancouver, Canada            | Program Grant 2001                               |
| Daniel WOLPERT             | UK          | University of Cambridge, UK                                  | Research Grant 1999,<br>Program Grant 2003, 2011 |
| FOREIGN MEMBER             |             |                                                              |                                                  |
| Jack DIXON                 | USA         | University of California, San Diego, La Jolla, USA           | Program Grant 2007                               |
| Denis DUBOULE              | Switzerland | University of Geneva, Switzerland                            | Research Grant 1991, 1994                        |
| FRANCIS CRICK LECTURE      |             |                                                              |                                                  |
| Angelika AMON              | Austria     | Massachusetts Institute of Technology,<br>Cambridge, USA     | Research Grant 2000                              |



# CHAPTER 4



## Budget and Finance



*Left to right: Sarah Naett, Isabelle Coquard,  
Akihiko Tanaka and Jennifer Sayol*

- 4.1 Guidelines for HFSP0 funding
- 4.2 Key financial figures for FY 2013
- 4.3 FY 2012 financial summary
- 4.4 Budget for program activities FY 2013

# 4.1

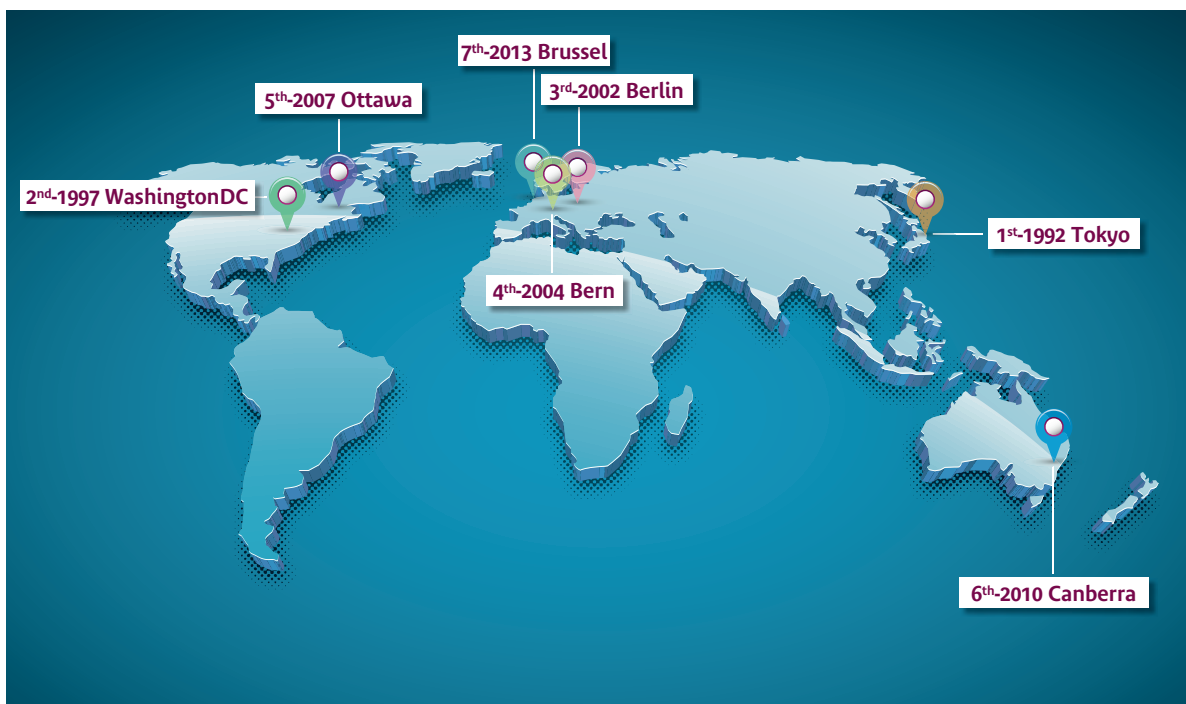
## GUIDELINES FOR HFSP FUNDING

HFSP is supported by voluntary contributions from its Management Supporting Parties (MSPs): Australia, Canada, France, Germany, India, Italy, Japan, Republic of Korea, New Zealand, Norway, Switzerland, the United Kingdom, the United States of America and the European Union.

MSPs hold regular Intergovernmental Conferences (IGCs) at which the intended level of contribution for the next budgetary period is established as a guideline for the Board.

The last IGC in Canberra in May 2010 established a three-year indicative budgetary guideline for the period FY 2011 to FY 2013. A new guideline for FY 2014 to FY 2016 will be decided at the IGC in Brussels in June 2013. In principle, the Canberra guideline is based on a 4 % annual increase of MSPs' contributions. The Canberra IGC guideline was established in local currency (LC).

### HFSP Intergovernmental Conferences (IGC)



# 4.2

## KEY FINANCIAL FIGURES FOR FY 2012

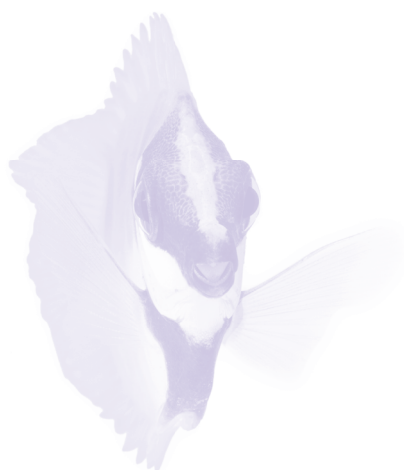
At HFSPPO, the fiscal year (FY) extends from 1 April in one year to 31 March the following year.

Figures are reported in million USD unless stated otherwise. Different exchange rates are used in this report for different purposes:

- IGC Canberra reference rates: these are used to monitor the implementation of the IGC budgetary guideline in USD over extended periods and avoid the risk of distortion arising from variations in the exchange rate. Reference rates may differ from actual rates.
- FY 2012 budget rate: the exchange rate used for the budget.
- FY 2012 daily accounting rates: these are used for HFSPPO's legal accounts and their consolidation in EUR or in USD. They are updated daily on the basis of data published by the European Central Bank.

**Table 4-1:**  
**Exchange rates used in FY 2012 report**

| Exchange rates 1 USD =        | CAD  | CHF  | EUR  | GBP  |
|-------------------------------|------|------|------|------|
| Canberra IGC for 2011 to 2013 | 1.00 | 1.14 | 0.75 | 0.65 |
| Budget FY 2012                | 1.00 | 1.14 | 0.75 | 0.65 |
| Actual FY 2012 (average)      | 1.00 | 0.94 | 0.78 | 0.63 |



# 4.2.1

## CONTRIBUTIONS

Contributions received from MSPs during FY 2012 are shown in Table 4-2 below. Actual payments were made in the agreed currencies, as shown in the first column. The second column shows them in USD, exchanged at the daily accounting rate.

**Table 4-2:**  
**Contributions received in FY 2012 in currencies (1<sup>st</sup> April 2012 to 31 March 2013)**

|                   | Payments                              |                                                  | Canberra Joint<br>Communiqué for 2012<br>USD |
|-------------------|---------------------------------------|--------------------------------------------------|----------------------------------------------|
|                   | Actual payment LC<br>(Local Currency) | Actual payment<br>in USD<br>(at accounting rate) |                                              |
| Australia         | 647 000 USD                           | \$ 647 000                                       | \$ 647 000                                   |
| Canada            | 1 675 000 CAD                         | \$ 1 680 453                                     | \$ 1 675 000                                 |
| EU                | 4 492 000 EUR                         | \$ 5 590 193                                     | \$ 5 989 000                                 |
| France            | 2 103 000 EUR                         | \$ 2 735 930                                     | \$ 2 153 000                                 |
| Germany           | 3 947 000 EUR                         | \$ 5 114 549                                     | \$ 5 263 000                                 |
| India*            | 951 000 EUR                           | \$ 951 000                                       | \$ 951 000                                   |
| Italy             | 849 000 EUR                           | \$ 1 102 082                                     | \$ 1 132 000                                 |
| Japan             | 23 545 000 USD                        | \$ 23 545 000                                    | \$ 29 523 000                                |
| Korea             | 751 000 USD                           | \$ 751 000                                       | \$ 751 000                                   |
| New-Zealand       | 123 000 USD                           | \$ 123 000                                       | \$ 123 000                                   |
| Norway            | 585 000 USD                           | \$ 585 000                                       | \$ 585 000                                   |
| Switzerland       | 787 000 CHF                           | \$ 848 598                                       | \$ 690 000                                   |
| UK                | 1 309 000 GBP                         | \$ 2 047 628                                     | \$ 2 014 000                                 |
| USA               | 9 930 320 USD                         | \$ 9 930 320                                     | \$ 10 740 000                                |
| *not yet received |                                       | <b>\$ 55 651 753</b>                             | <b>\$ 62 236 000</b>                         |

Total contributions amounted to 89.4 % of the Canberra goal shown in the third column (compared to 94.4 % last year). Due to further decrease in the Japanese contribution and difficulties in the USA to increase beyond the 2010 level, it was not possible to achieve the Canberra goal.

- Eleven MSPs have settled their confirmed contribution in full.
- Japan decreased again its contribution by 5 % compared to last year, contributing 5.97 million USD less than the amount indicated in the Canberra budgetary plan.
- The US paid 9.930 million USD, the same amount as in 2011 and 2010. This is 0.809 million USD less than the Canberra goal for FY 2012.
- As of 31 March 2013, payment in full of the Indian contribution for FY 2012 has been delayed.

## GEOGRAPHICAL DISTRIBUTION

At the end of FY 2012, the total amount contributed by the MSPs since the beginning of the Program reaches 1.151 billion USD.

Japan, the founder of the Program, has provided 746 million USD, representing 64.8% of the total. All the other MSPs have contributed 405 million USD together.

Table 4-3:

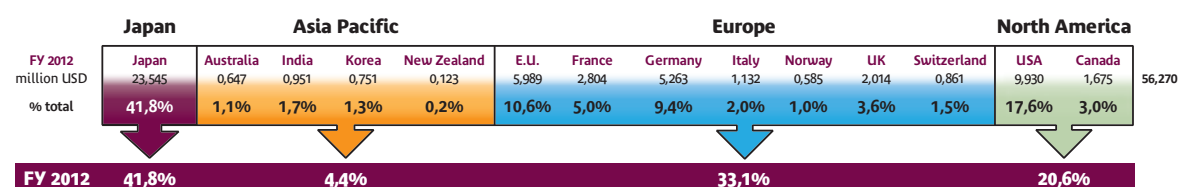
Actual Contributions from MSPs per fiscal year current exchange rate\* (million USD)

|              | Australia    | Canada       | EU           | France       | Germany      | India       | Italy        | Japan         | Korea       | New Zealand | Norway      | Switzerland  | UK           | USA           | TOTAL          | % y to y |
|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|---------------|-------------|-------------|-------------|--------------|--------------|---------------|----------------|----------|
| FY 1989      |              |              |              | 0.500        |              |             | 0.000        | 9.900         |             |             |             |              |              |               | 10.42          |          |
| FY 1990*     | 0.200        |              |              | 1.650        | 0.290        |             | 0.330        | 28.950        |             |             |             |              |              |               | 31.42          | 201.54   |
| FY 1991      |              |              | 0.150        | 1.620        | 0.910        |             | 0.440        | 28.440        |             |             |             | 0.400        |              | 0.040         | 32.00          | 1.85     |
| FY 1992      | 0.400        | 0.180        | 1.320        | 0.770        |              |             | 0.190        | 29.570        |             |             |             | 0.400        | 0.510        | 0.040         | 33.38          | 4.31     |
| FY 1993      | 0.330        | 0.910        | 1.250        | 0.810        |              |             | 0.180        | 31.300        |             |             |             | 0.400        | 0.540        | 3.500         | 39.22          | 17.50    |
| FY 1994      | 0.540        | 1.110        | 1.560        | 0.990        |              |             | 0.180        | 34.010        |             |             |             | 0.400        | 0.590        | 3.500         | 42.88          | 9.33     |
| FY 1995      | 0.530        | 1.000        | 1.740        | 1.220        |              |             | 0.190        | 35.650        |             |             |             | 0.590        | 0.580        | 3.500         | 45.00          | 4.94     |
| FY 1996      | 0.260        | 0.260        | 1.370        | 1.170        |              |             | 0.180        | 36.730        |             |             |             | 0.510        | 0.630        | 4.000         | 45.77          | 1.71     |
| FY 1997      | 0.250        | 0.250        | 1.470        | 1.020        |              |             | 0.170        | 37.380        |             |             |             | 0.530        | 0.760        | 4.000         | 46.45          | 1.49     |
| FY 1998      | 0.450        | 0.450        | 1.700        | 1.250        |              |             | 0.290        | 35.840        |             |             |             | 0.580        | 0.760        | 4.500         | 46.48          | 0.06     |
| FY 1999      | 0.440        | 1.680        | 1.750        | 1.600        |              |             | 0.290        | 35.770        |             |             |             | 0.610        | 0.750        | 5.000         | 47.89          | 3.03     |
| FY 2000      | 0.450        | 1.520        | 1.580        | 2.100        |              |             | 0.260        | 37.380        |             |             |             | 0.550        | 0.750        | 5.500         | 50.09          | 4.59     |
| FY 2001      | 0.510        | 0.870        | 1.160        | 2.840        |              |             | 0.680        | 37.050        |             |             |             | 0.520        | 0.800        | 7.390         | 51.82          | 3.45     |
| FY 2002      | 0.830        | 2.380        | 1.400        | 1.530        |              |             |              | 31.250        |             |             |             | 0.530        | 1.550        | 8.600         | 48.07          | -7.24    |
| FY 2003      | 0.810        | 4.720        | 1.910        | 3.940        |              |             |              | 31.250        |             |             |             | 0.630        | 1.470        | 10.400        | 55.13          | 14.69    |
| FY 2004      | 0.850        | 4.080        | 2.070        | 3.430        |              |             | 2.120        | 31.250        |             |             |             | 0.690        | 1.630        | 9.500         | 55.62          | 0.89     |
| FY 2005      | 0.466        | 0.870        | 4.510        | 2.170        | 3.500        |             | 0.840        | 31.248        | 0.550       |             |             | 0.690        | 1.720        | 9.000         | 55.564         | -0.10    |
| FY 2006      | 0.485        | 1.063        | 4.690        | 2.545        | 3.913        |             | 0.916        | 31.248        | 0.568       | 0.095       |             | 0.697        | 1.878        | 9.000         | 57.098         | 2.76     |
| FY 2007      | 0.504        | 1.286        | 5.500        | 2.951        | 4.174        | 0.780       | 1.561        | 31.248        | 0.591       | 0.099       |             | 0.698        | 2.146        | 9.000         | 60.538         | 6.02     |
| FY 2008      | 0.534        | 1.240        | 5.570        | 3.039        | 4.910        | 0.812       | 0.909        | 31.248        | 0.624       | 0.103       | 0.500       | 0.780        | 2.240        | 9.364         | 61.873         | 2.20     |
| FY 2009      | 0.566        | 1.331        | 5.762        | 2.439        | 5.266        | 0.844       |              | 31.248        | 0.658       | 0.108       | 0.520       | 0.862        | 1.915        | 9.832         | 61.351         | -0.84    |
| FY 2010      | 0.598        | 1.441        | 5.334        | 2.000        | 5.037        | 0.879       | 1.092        | 29.523        | 0.694       | 0.113       | 0.541       | 0.818        | 1.816        | 9.930         | 59.817         | -2.50    |
| FY 2011      | 0.622        | 1.614        | 6.254        | 2.701        | 5.036        | 0.914       | 1.073        | 24.773        | 0.722       | 0.118       | 0.563       | 0.923        | 2.010        | 9.930         | 57.253         | -4.29    |
| FY 2012      | 0.647        | 1.680        | 5.590        | 2.736        | 5.115        | 0.837       | 1.102        | 23.545        | 0.751       | 0.123       | 0.585       | 0.849        | 2.047        | 9.930         | 55.537         | -3.00    |
| <b>TOTAL</b> | <b>4.420</b> | <b>17.38</b> | <b>64.71</b> | <b>44.59</b> | <b>60.82</b> | <b>5.07</b> | <b>13.01</b> | <b>745.84</b> | <b>5.16</b> | <b>0.76</b> | <b>2.71</b> | <b>13.66</b> | <b>27.09</b> | <b>145.46</b> | <b>1150.67</b> |          |
|              | 0.4%         | 1.5%         | 5.6%         | 3.9%         | 5.3%         | 0.4%        | 1.1%         | 64.8%         | 0.4%        | 0.1%        | 0.2%        | 1.2%         | 2.4%         | 12.6%         |                |          |

The Asia Pacific region, which includes Japan, remains the main source of funding, contributing 46.2 % of the total in FY 2012. After the Asia Pacific region, Europe contributed 33.1 % and North America contributed 20.6 %.

Fig. 4-1:

Geographical distribution per continent



# 4.2.2

## PAYMENT OF AWARDS

HFSPo paid 53.079 million USD to its awardees during FY 2012 (compared to 56.177 million USD for FY 2011). Fig. 4-2 shows the breakdown of the amount by activity:

- Research Grant payments amounted to 34.825 million USD. This constitutes 66 % of payments made in FY 2012 (compared to 61.8 % last year).
- Payments to Long-Term and Cross-Disciplinary Fellows correspond to 28 % of payments in FY 2012 (compared to 29.3 % last year). Actual payments were slightly below budget for two reasons observed every year:
  - Some payments planned for FY 2012 were postponed for reasons such as parental leave or deferral of the third year in the event of repatriation. These payments were transferred to following fiscal years.
  - Some fellows terminated earlier than scheduled e.g. to take up a permanent position.
- Payments to CDA holders amounted to 3.2 million USD and constitute 6 % of FY 2012 payments (compared to 8.9 % last year).
- Resources allocated to the Awardees Meeting in Daegu, Republic of Korea, and other outreach activities, including Program meetings, the Nakasone Award or Alumni meetings, amounted to approximately 550 thousand USD.

Fig. 4-2:  
Payments made in FY 2012 by type of award

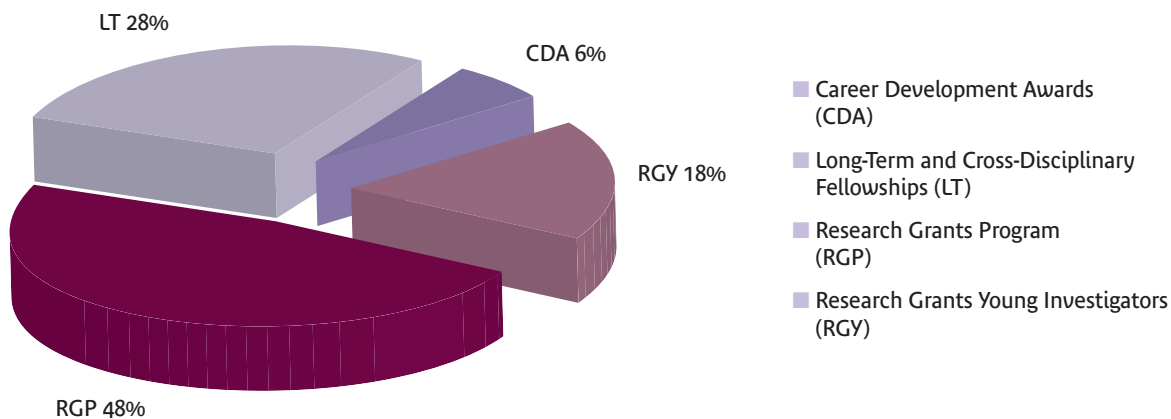


Table 4-4 and Fig. 4-3 show the geographical distribution of award payments.

**Table 4-4:**  
Geographical distribution of award payments per MSP for the major programs in FY2012 (million USD)

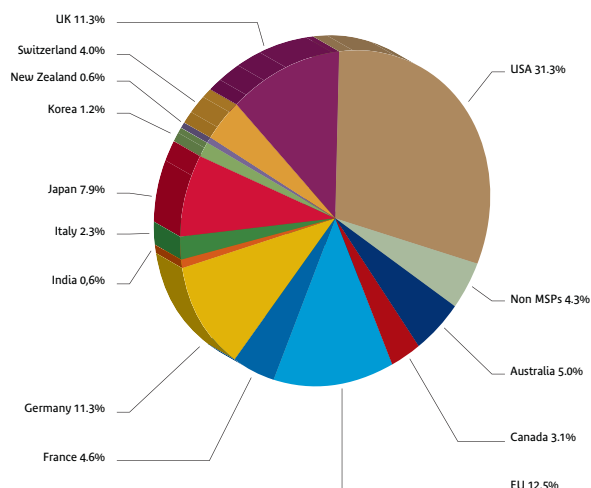
| MSP                | Research Grants | %             | Long-Term+ Cross-Disciplinary Fellowships | %             | Career Development Awards | %             | Total         | % Total       |
|--------------------|-----------------|---------------|-------------------------------------------|---------------|---------------------------|---------------|---------------|---------------|
| Australia          | 1.729           | 4.96%         | 0.351                                     | 2.33%         | 0.200                     | 6.25%         | 2.280         | 4.29%         |
| Canada             | 1.072           | 3.08%         | 0.145                                     | 0.97%         | 0.300                     | 9.38%         | 1.518         | 2.86%         |
| EU                 | 4.351           | 12.49%        | 0.922                                     | 6.13%         | 0.300                     | 9.38%         | 5.573         | 10.50%        |
| France             | 1.609           | 4.62%         | 0.591                                     | 3.92%         | 0.500                     | 15.63%        | 2.700         | 5.09%         |
| Germany            | 3.940           | 11.31%        | 1.178                                     | 7.83%         | 0.400                     | 12.50%        | 5.518         | 10.40%        |
| India              | 0.220           | 0.63%         | —                                         | 0.00%         | —                         | 0.00%         | 0.220         | 0.41%         |
| Italy              | 0.785           | 2.25%         | —                                         | 0.00%         | —                         | 0.00%         | 0.785         | 1.48%         |
| Japan              | 2.739           | 7.87%         | 0.132                                     | 0.88%         | 0.300                     | 9.38%         | 3.171         | 5.97%         |
| Korea              | 0.433           | 1.24%         | —                                         | 0.00%         | —                         | 0.00%         | 0.433         | 0.82%         |
| New Zealand        | 0.200           | 0.57%         | —                                         | 0.00%         | —                         | 0.00%         | 0.200         | 0.38%         |
| Norway             | —               | 0.00%         | —                                         | 0.00%         | —                         | 0.00%         | —             | 0.00%         |
| Switzerland        | 1.408           | 4.04%         | 1.046                                     | 6.95%         | 0.100                     | 3.13%         | 2.555         | 4.81%         |
| UK                 | 3.949           | 11.34%        | 1.302                                     | 8.65%         | 0.200                     | 6.25%         | 5.452         | 10.27%        |
| USA                | 10.889          | 31.27%        | 9.313                                     | 61.86%        | 0.100                     | 3.13%         | 20.302        | 38.25%        |
| Non MSPs           | 1.501           | 4.31%         | 0.072                                     | 0.48%         | 0.800                     | 25.00%        | 2.373         | 4.47%         |
| <b>Grand Total</b> | <b>34.825</b>   | <b>100.0%</b> | <b>15.054</b>                             | <b>100.0%</b> | <b>3.200</b>              | <b>100.0%</b> | <b>53.078</b> | <b>100.0%</b> |
|                    | 65.61%          |               | 28.36%                                    |               | 6.03%                     |               |               |               |

42.5 % of the total amount of awards paid in FY 2012 supported HFSP awardees in Europe (cf. 46.3% in FY 2011), 41.1 % was allocated to awardees in

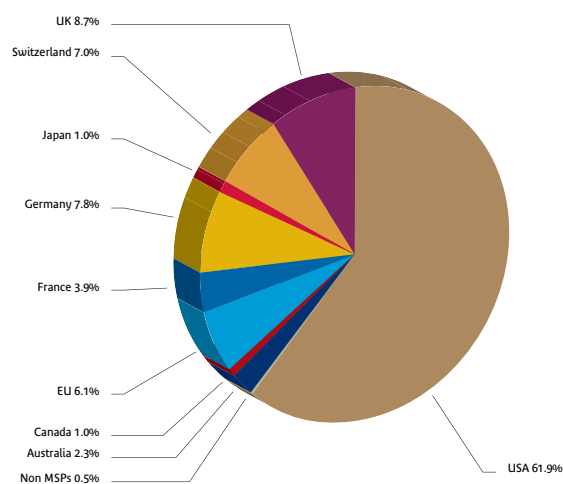
North America (cf. 38.4 % in FY 2011), 11.9 % went to awardees in the Asia-Pacific region (cf. 11.7 % in FY 2011) and 4.5 % to non MSPs (cf. 3.6 % in FY 2011).

**Fig. 4-3:**  
Overview of FY 2012 payments to grant team members according to country

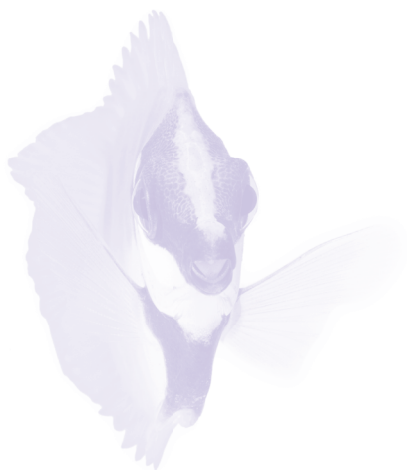
#### Research Grants



#### Fellowships



In FY 2012, 13 out of 14 MSPs benefited from HFSP Research Grants, highlighting sustained efforts to participate in international collaboration.



# 4.3

## FY 2012 FINANCIAL SUMMARY

The accounting summary (Table 4-4) provides an overview of income and expenditures. Together, these result in the cash net financial position. Contributions paid in currencies other than the USD are consolidated at the exchange rate of the date of payment.

**Table 4-5:**  
HFSP0 accounting summary FY 2012 (budget and actual rates) - Income

| Income/ current commitments                                |     | Budget 2012<br>in m LC | Received FY 2012<br>in m LC (budget rate) | Budget 2012<br>in m USD | Received FY 2012<br>in m USD (actual rate) |
|------------------------------------------------------------|-----|------------------------|-------------------------------------------|-------------------------|--------------------------------------------|
| <b>1. Contributions</b>                                    |     |                        |                                           | <b>56.270</b>           | <b>55.651</b>                              |
| Australia                                                  | USD | 0.647                  | 0.647                                     | 0.647                   | 0.647                                      |
| Canada                                                     | CAD | 1.675                  | 1.675                                     | 1.675                   | 1.680                                      |
| European Union                                             | EUR | 4.492                  | 4.492                                     | 5.989                   | 5.590                                      |
| France                                                     | EUR | 2.103                  | 2.101                                     | 2.804                   | 2.736                                      |
| Germany                                                    | EUR | 3.947                  | 3.947                                     | 5.263                   | 5.115                                      |
| India                                                      | USD | 0.951                  | 0.951                                     | 0.951                   | 0.951                                      |
| Italy                                                      | EUR | 0.849                  | 1.071                                     | 1.132                   | 1.102                                      |
| Japan                                                      | USD | 23.545                 | 23.545                                    | 23.545                  | 23.545                                     |
| Korea                                                      | USD | 0.751                  | 0.751                                     | 0.751                   | 0.751                                      |
| New Zealand                                                | USD | 0.123                  | 0.123                                     | 0.123                   | 0.123                                      |
| Norway                                                     | USD | 0.585                  | 0.585                                     | 0.585                   | 0.585                                      |
| Switzerland                                                | CHF | 0.787                  | 0.787                                     | 0.861                   | 0.849                                      |
| UK                                                         | GBP | 1.309                  | 1.309                                     | 2.014                   | 2.047                                      |
| USA                                                        | USD | 9.930                  | 9.930                                     | 9.930                   | 9.930                                      |
| <b>2. Interest and capital gain (estimate)</b>             |     |                        |                                           | <b>0.250</b>            | <b>0.711</b>                               |
| <b>3. Miscellaneous reimbursements</b>                     |     |                        |                                           | <b>0.000</b>            | <b>0.466</b>                               |
| <b>4. Treasury</b>                                         |     |                        |                                           | <b>59.435</b>           | <b>59.721</b>                              |
| EMTN                                                       |     |                        |                                           | 35.935                  | 29.500                                     |
| UCITS in USD                                               |     |                        |                                           | 16.499                  | 23.721                                     |
| UCITS in EURO                                              |     |                        |                                           | 4.080                   | 2.497                                      |
| CURRENT BANK ACCOUNTS                                      |     |                        |                                           | 2.921                   | 4.003                                      |
|                                                            |     |                        |                                           | (03/2012)               | (03/2013)                                  |
| <b>Total income</b>                                        |     |                        |                                           | <b>115.955</b>          | <b>116.549</b>                             |
| Contribution to receive from previous fiscal year (IT, IN) |     |                        |                                           | 3.888                   | 0.449                                      |
| <b>Balance (negative)</b>                                  |     |                        |                                           |                         | 0.000                                      |
| <b>GRAND TOTAL</b>                                         |     |                        |                                           | <b>119.843</b>          | <b>116.998</b>                             |

Table 4-5 (continued):

## HFSPO accounting summary FY 2012(budget and actual rates) - Expenditures

| Expenditures/ new commitments                | Budget 2012<br>in m USD | Report FY 2012<br>in m USD |
|----------------------------------------------|-------------------------|----------------------------|
| <b>1. Administrative expenses</b>            | <b>4.471</b>            | <b>3.849</b>               |
| <b>2. Program activities</b>                 | <b>55.907</b>           | <b>53.628</b>              |
| Program Grants                               | 25.250                  | 25.325                     |
| Young Investigators                          | 9.500                   | 9.500                      |
| Fellowships                                  | 16.880                  | 15.054                     |
| Career Development Awards                    | 3.400                   | 3.200                      |
| Awardees meetings and outreach activities    | 0.877                   | 0.549                      |
| <b>3. Committed funds beyond Fiscal Year</b> | <b>59.016</b>           | <b>57.343</b>              |
| Committed funds from previous year           | 2.596                   |                            |
| Program Grants                               | 25.900                  | 25.900                     |
| Young Investigators                          | 9.800                   | 9.800                      |
| Fellowships                                  | 18.020                  | 18.943                     |
| Career Development Awards                    | 2.700                   | 2.700                      |
| <b>Total Expenses</b>                        | <b>119.394</b>          | <b>114.820</b>             |
| <b>Annual balance</b>                        | <b>0.449</b>            | <b>2.178</b>               |
| <b>GRAND TOTAL</b>                           | <b>119.843</b>          | <b>116.998</b>             |

As regards the FY 2012 budget, the Indian contribution has been included in the accounting summary since payment has been confirmed, though not received in total. Overall financial income is estimated to be higher than expected due to the fact that long-term investments performed well.

Expenditures have been closely monitored and were lower than expected. The expenses of the Secretariat for FY2012 amounted to 3.849 million USD as compared to 4.02 million USD in FY 2011. These include meeting and travel costs for the Board of Trustees, office costs and salaries. Other meeting costs for the Review Committees, Council and Selection Committee are included under "Meetings and outreach activities".

All Research grant, Fellowship and Career Development Award payments for FY 2012 have been made in full. Program expenses reached 53.628 million USD, two million less than expected. Some fellows terminated earlier than expected because

they were either offered a permanent position or they opted for another fellowship. Taking into account both the cash flow and commitments to awardees (i.e. commitments from previous years at the beginning of the year and those still to be paid at closing), there should be a positive balance of around 2 million USD at the end of FY 2012.

#### Note on FY 2012 accounts

Accounts for FY 2012, consolidated in EUR have been prepared by the chartered accountants MAZARS. Price Waterhouse Coopers audited and certified these accounts. HFSPO's legal accounts are reported on an accrual basis. They follow the French regulations (GAAP) applicable to not-for-profit organisations. Legal accounts are consolidated and stated in EUR. The currency of consolidation used for HFSPO's internal reporting, including this annual report, is the USD.

# 4.4

## BUDGET FOR PROGRAM ACTIVITIES FY 2013

### CONTRIBUTIONS

Planning for the FY 2013 budget was based on MSPs' contributions as confirmed at the 47<sup>th</sup> Board meeting (March 2013). This amounted to 55.92 million USD.

Due to the sequestration process, the US contribution may possibly change, affecting the number of awards below. The reserve list for fellowships will be adapted according to funds received.



### PROGRAM ACTIVITIES

- The Program activity plan was adopted by the Board on 19 March 2013. Taking into account the limits of the projected budget, it decided to make the following awards:
  - 23 Program Grants
  - 10 Young Investigators
  - 61 Long-Term and 9 Cross-Disciplinary Fellowships, with a reserve list,
  - 8 Career Development Awards
- Program activities in FY 2013 will cost 54.95 million USD.
- Of this amount, program activities for FY 2013 include the 13<sup>th</sup> HFSP Awardees meeting in Strasbourg, France, the Nakasone Award 2013, an Alumni network meeting, a Canadian and US workshop tour, attendance at scientific meetings and travel for Council and Review Committee members. These expenses will amount to 857 thousand USD
- Payments to awardees in FY 2013 will amount to 54.09 million USD as compared to 54.35 million USD last year and 58.95 million USD in FY 2011.

## OVERVIEW OF HFSP0 2013 BUDGET

HFSP0 continues to operate on a sound financial basis. For program activities in FY2013 and beyond, and for operational costs it has committed 117.06 million USD. HFSP0 expects to receive 55.92 million USD in MSPs' contributions for FY 2013. Together with resources from past contributions, interest and income from

investments, the total amount available for FY 2013 and beyond will be over 117.26 million USD, assuming that outstanding contributions from India and Italy are received. The balance between income and expenditure is positive and amounts to about 0.2 million USD.

**Table 4-6:**

**Overview of HFSP0 budget for FY 2013 including all commitments for future years.**

| INCOME                                         |          | Budget<br>2013<br>in m LC | Canberra<br>IGC-USD<br>in m USD | Budget<br>2013<br>in m USD | EXPENDITURES                                 |         | Budget<br>2013<br>in m LC | Budget<br>2013<br>in m USD |
|------------------------------------------------|----------|---------------------------|---------------------------------|----------------------------|----------------------------------------------|---------|---------------------------|----------------------------|
| <b>1. Contributions</b>                        |          | <b>n.a.</b>               | <b>64.22</b>                    | <b>55.92</b>               | <b>1. HFSP Operations</b>                    | EUR     | <b>3.35</b>               | <b>4.47</b>                |
| Australia                                      | USD      | 0.67                      | 0.67                            | 0.67                       |                                              |         |                           |                            |
| Canada                                         | CAD      | 1.74                      | 1.74                            | 1.74                       |                                              |         |                           |                            |
| European Commission                            | EUR      | 4.67                      | 6.23                            | 6.23                       |                                              |         |                           |                            |
| France - not confirmed                         | EUR      | 2.19                      | 2.92                            | 2.92                       |                                              |         |                           |                            |
| Germany                                        | EUR      | 4.11                      | 5.47                            | 5.47                       |                                              |         |                           |                            |
| India - not confirmed                          | USD      | 0.99                      | 0.99                            | 0.99                       |                                              |         |                           |                            |
| Italy - not confirmed                          | EUR      | 0.88                      | 1.18                            | 1.18                       |                                              |         |                           |                            |
| Japan                                          | USD      | 22.46                     | 29.52                           | 22.46                      |                                              |         |                           |                            |
| Korea                                          | USD      | 0.78                      | 0.78                            | 0.78                       |                                              |         |                           |                            |
| New Zealand                                    | USD      | 0.13                      | 0.13                            | 0.13                       |                                              |         |                           |                            |
| Norway                                         | USD      | 0.61                      | 0.61                            | 0.61                       |                                              |         |                           |                            |
| Switzerland                                    | CHF      | 0.82                      | 0.72                            | 0.72                       |                                              |         |                           |                            |
| UK                                             | GBP      | 1.36                      | 2.09                            | 2.09                       |                                              |         |                           |                            |
| USA 10 740\$ Canberra request                  | USD      | 9.93                      | 11.17                           | 9.93                       |                                              |         |                           |                            |
| <b>2. Interest and capital gain</b>            |          |                           | <b>0.25</b>                     |                            | <b>2. Program Activities</b>                 | USD     |                           | <b>54.95</b>               |
|                                                |          |                           |                                 |                            | Program Grants                               | 23      | 25.28                     | 25.28                      |
|                                                |          |                           |                                 |                            | Young Investigators                          | 10      | 9.93                      | 9.93                       |
|                                                |          |                           |                                 |                            | Long-Term Fellowships                        | 80      | 16.38                     | 16.38                      |
|                                                |          |                           |                                 |                            | Career Development Awards                    | 8       | 2.50                      | 2.50                       |
|                                                |          |                           |                                 |                            | Awardees meetings                            | EUR     | 0.25                      | 0.33                       |
|                                                |          |                           |                                 |                            | Program meetings (RC, COS, SEL)              | EUR     | 0.26                      | 0.35                       |
|                                                |          |                           |                                 |                            | Outreach activities - Alumni network         | EUR     | 0.10                      | 0.14                       |
|                                                |          |                           |                                 |                            | Nakasone Award                               | EUR     | 0.03                      | 0.04                       |
| <b>3. FY2012 contrib. Still to be received</b> |          |                           | <b>1.37</b>                     |                            | <b>3. Not yet paid as of</b>                 | 29/1/13 |                           | <b>2.85</b>                |
|                                                |          |                           |                                 |                            | CDA 2010 - 2011 - 2012                       |         | 0.70                      | 0.70                       |
|                                                |          |                           |                                 |                            | LT 2009 - 2010 - 2011 - 2012                 |         | 1.34                      | 1.34                       |
|                                                |          |                           |                                 |                            | RGP 0066/2012                                |         | 0.07                      | 0.07                       |
|                                                |          |                           |                                 |                            | Office costs to go for FY 2012               |         | 0.73                      | 0.73                       |
| <b>4. Treasury as of</b>                       | 29/01/13 |                           | <b>59.72</b>                    |                            | <b>4. Committed funds beyond fiscal year</b> |         | <b>54.80</b>              | <b>54.80</b>               |
| EMTN                                           |          |                           | 29.50                           |                            | Program Grants                               |         | 26.05                     | 26.05                      |
| BNP PARIBAS insticash USD                      |          |                           | 23.72                           |                            | Young Investigators                          |         | 9.45                      | 9.45                       |
| Livrets Association 2,5% guaranty              |          |                           | 2.50                            |                            | Long-Term Fellowships                        |         | 16.90                     | 16.90                      |
| Current Bank Accounts                          |          |                           | 4.00                            |                            | Career Development Awards                    |         | 2.40                      | 2.40                       |
| <b>Total Income + Assets</b>                   |          |                           | <b>117.26</b>                   |                            | <b>Total expenses + Committed</b>            |         |                           | <b>117.06</b>              |
|                                                |          |                           |                                 |                            | <b>Balance (positive)</b>                    |         |                           | <b>0.19</b>                |
| <b>GRAND TOTAL</b>                             |          |                           | <b>117.26</b>                   |                            | <b>GRAND TOTAL</b>                           |         |                           | <b>117.26</b>              |



# APPENDIX



- A.1** History of the Program
- A.2** Joint Communiqué of the  
Intergovernmental Conference on the  
Human Frontier Science Program, Canberra,  
28 May 2010
- A.3** Summary of decisions of the Board of  
Trustees in 2012
- A.4** Long-Term and Cross-Disciplinary  
Fellowships awarded in 2012
- A.5** Career Development Awards made in 2012
- A.6** Research Grants awarded in 2012

# A.1

## HISTORY OF THE PROGRAM

### A1.1 Beginnings

**1986** A feasibility study was carried out by leading Japanese scientists under the auspices of the Japanese Prime Minister's Council for Science of Technology, to explore possible means to encourage international collaboration in basic research.

**1987** Discussion was expanded to include scientists from the G7 summit nations and the European Union, resulting in the «London Wise Men's Conference» in April 1987, which endorsed the suggestion.

Prime Minister Nakasone of Japan proposed the Human Frontier Science Program at the Venice Economic Summit in June. The Economic Summit partners and the Chairman of the European Community welcomed the initiative and activities aimed at implementing it as soon as possible were started.

**1988** Further international talks were held from November 1987 to March 1988 in the form of an International HFSP Feasibility Study Committee, which culminated in April 1988 in the «Bonn Wise Men's Conference» - this established an outline of the program activities and defined the general scientific areas and types of activity to be supported.

Prime Minister Takeshita of Japan reported the conclusions of the international feasibility study at the Toronto Economic Summit in June. The assembled Heads of State welcomed the proposal for implementation in the near future.

**1989** An International Scientists Committee, which had started work in 1987, gave further shape to the Program, defining its organization and the details of its program activities, research areas and selection procedures. Intergovernmental conferences were held in June and July 1989 in Tokyo and Berlin,

respectively, which led to endorsement of the plan by the participating governments. It was agreed to implement the HFSP for an initial experimental phase of 3 years.

The Secretariat of the Program, the International Human Frontier Science Program Organization, was founded in October 1989 in Strasbourg, France. The first President of the Program was Ambassador Miyazaki (Japan), the first Chairman of the Council of Scientists was Dr. Edward Rall (US) and the first Secretary General was Sir James Gowans, former Secretary of the Medical Research Council, UK.

**1990** The peer review process was established and the first awards were made in March.

### A1.2 Further development of the Program

Intergovernmental Conferences bring together representatives of the Management Supporting Parties, i.e. those countries that support the Program directly, plus the European Union, representing the remaining EU countries, to discuss overall policy and strategy. Since 2004, they also establish an indicative financial framework for the following three years.

**1<sup>st</sup> Intergovernmental Conference, Tokyo, Japan, January 1992:** This conference recognised the achievements made in the initial phase of the Program and the desirability of continuing the HFSP. It was decided to carry out a general review of the program from both scientific and organisational standpoints.

**2<sup>nd</sup> Intergovernmental Conference, Washington DC., USA, May 1997:** It was decided to continue the HFSP for another five years. The MSPs reaffirmed the goals of the Tokyo Joint Communiqué aimed at increased and equitable funding for the Program. A further review of the Program was requested for March 2001.

**3<sup>rd</sup> Intergovernmental Conference, Berlin, Germany, June 2002:** The MSPs agreed to the continuation of HFSP for a further five years on the basis of its scientific value and the implementation of a number of initiatives introduced by the Secretary General. A working group was set up to consider the future finances, status and scope of the Program.

**4<sup>th</sup> Intergovernmental Conference, Bern, Switzerland, June 2004:** The delegates agreed upon a general indicative financial framework for 2005-2007 in order to reach a total budget of 60 million USD and a 50:50 distribution of contributions from Japan and the other countries. An annual increase was recommended to maintain the awarding capacity of the Program.

**5<sup>th</sup> Intergovernmental Conference, Ottawa, Canada, June 2007:** The representatives agreed on an indicative three year budgetary plan 2008-2010 and endorsed the Board recommendation of March 2007 that an annual minimum contribution be required of any new MSP.

**6<sup>th</sup> Intergovernmental Conference, Canberra, Australia, May 2010:** The representatives recognised the success of HFSP in setting new paradigms for research and in funding excellent individual and collaborative projects over a 20 year period. As the Program enters a new phase of its development, representatives asked the Board to develop a new financial framework for consideration at the next IGC. For the period 2011-2013, an indicative financial framework was agreed.

### A1.3 Membership of HFSP

HFSP was established at the initiative of the Japanese government, led by Prime Minister Nakasone. The founding MSPs were Canada, France, Germany, the European Union, Italy, Japan, the UK and the USA. Switzerland took up membership in 1990. At the 3rd Intergovernmental Conference (Berlin, 2002), MSPs agreed to take active steps to expand the membership of HFSP to enhance the intercontinental balance of the Program and promote international collaboration. The Guidelines for membership were subsequently revised and the Board accepted the following new members:

**2004** Australia and Republic of Korea  
**2006** New Zealand and India  
**2008** Norway

### A1.4 Reviews of HFSP

A number of reviews have been carried out at the request of the MSPs.

**1996 General Review:** a questionnaire based review, with comments by an expert scientific panel.

**2001 Second General Review:** a questionnaire based review, with a bibliometric analysis.

**2006 Review of the Human Frontier Program's Initiatives 2000-2005:** a questionnaire based review to evaluate the success of the initiatives introduced under the leadership of Secretary General, Torsten Wiesel

**2007 Report of the expert review panel on HFSP:** : an additional review by a panel of eminent scientists, who were invited to comment on the 2006 report and to identify issues for further evaluation.

**2010 Review of the Human Frontier Science Program:** a questionnaire based review to evaluate the success of the initiatives since 2000 and a bibliometric analysis of awardees' publications. A further study of commercialization resulting from HFSP funded research was carried out at the request of the Ministry of Trade, Economy and Industry, Japan.

### A1.5 Leadership and management

The MSPs nominate representatives to the Board of Trustees to take responsibility for the management of the Program in collaboration with the Council of Scientists. A President and two Vice-Presidents are elected by the members from among the Trustees for a three-year term. The Board of Trustees appoints a Secretary General for a term of three years to execute the Program in accordance with the decisions of the Board of Trustees and the Council of Scientists.

#### President of the Board of Trustees

|                            |                            |
|----------------------------|----------------------------|
| Hiromichi MIYAZAKI (Japan) | November 1989 – March 1995 |
| Kozo IIZUKA (Japan)        | April 1995 – March 2000    |
| Masao ITO (Japan)          | April 2000 – March 2009    |
| Akito ARIMA (Japan)        | April 2009 – March 2012    |
| Nobutaka Hirokawa (Japan)  | April 2012 to present      |

#### Chair of the Council of Scientists

Edward RALL (USA):  
 March 1990 (2<sup>nd</sup> meeting) to March 1993 (8<sup>th</sup> meeting),  
 Klaus-Peter HOFFMANN (Germany)  
 November 1993 (9<sup>th</sup> meeting) to March 1995 (12<sup>th</sup> meeting)  
 Pierre CHAMBON (France)  
 March 1996 (13<sup>th</sup> meeting) and March 1997 (14<sup>th</sup> meeting)  
 Albert AGUAYO (Canada)  
 March 1998 (15<sup>th</sup> meeting) and March 1999 (16<sup>th</sup> meeting)  
 Arturo FALASCHI (Italy)  
 March 2000 (17<sup>th</sup> meeting) and March 2001 (18<sup>th</sup> meeting)  
 Pierre MAGISTRETTI (Switzerland)  
 March 2002 (19<sup>th</sup> meeting) and March 2003 (20<sup>th</sup> meeting)  
 Heinrich BETZ (Germany)  
 March 2004 (21<sup>st</sup> meeting)  
 Joachim SEELIG (Switzerland)  
 March 2005 (22<sup>nd</sup> meeting) and March 2006 (23<sup>rd</sup> meeting)  
 Rudi BALLING (Germany)  
 March 2007 (24<sup>th</sup> meeting)  
 Paul LASKO (Canada)  
 March 2008 (25<sup>th</sup> meeting) to March 2010 (27<sup>th</sup> meeting)  
 Rae SILVER (USA)  
 March 2011 (28<sup>th</sup> meeting) to July 2012 (31<sup>st</sup> meeting)  
 Young-Joon Kim (Rep. of Korea)  
 March 2013 (32<sup>nd</sup> meeting)

#### Secretary General

|                                  |                            |
|----------------------------------|----------------------------|
| James GOWANS (UK)                | November 1989 – March 1993 |
| Michel CUÉNOD (Switzerland)      | April 1993 – March 2000    |
| Torsten WIESEL (USA)             | April 2000 – June 2009     |
| Ernst-Ludwig WINNACKER (Germany) | July 2009 to present       |

# A.2

## JOINT COMMUNIQUÉ OF THE INTERGOVERNMENTAL CONFERENCE ON THE HUMAN FRONTIER SCIENCE PROGRAM, CANBERRA, 28 MAY 2010

Representatives of the Management Supporting Parties (MSPs) of Australia, Canada, France, Germany, Italy, Japan, the Republic of Korea, New Zealand, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America and of the European Union met at an Intergovernmental Conference (IGC) on 28 May 2010 in Canberra, Australia, to review the progress made and to discuss the future of the Human Frontier Science Program (HFSP)<sup>1</sup>.

### Paragraph 1 : Continuation of the Human Frontier Science Program

a) Representatives recognise and applaud the success of the HFSP in setting new paradigms in international research and in supporting exceptional research and fellows over a 20-year period. They note with approval the recent positive external evaluation of the Program, in particular the clear success of the scientific programs in achieving their aim of stimulating interdisciplinary interactions and supporting early career scientists. The quality of the output is clearly well above other high impact comparators. The evaluation recognised that HFSP continues to provide opportunities to link knowledge areas in novel ways and that the Program is more than ever avant-garde among funding programs globally.

b) Representatives agree to commit to continue the support of the Program and to ensure the future success of HFSP by maintaining the competitiveness of its grants and support for exceptional scientists.

### Paragraph 2 : Finances

- a) Representatives acknowledge and commend the lead role of Japan in supporting HFSP. Japan's vision and its financial support over the past 20 years have ensured that the Program continues to have profound impacts in extending the frontiers of the life sciences.
- b) Representatives agree to the proposed respective contributions for the period 2011-2013 as set out in the Annex.
- c) Representatives are pleased to note that an equal match between the contribution of Japan and that of other MSPs has been achieved.
- d) Representatives note that this Program, 20 years after its foundation, is now entering a new phase of its development. Therefore, representatives request the HFSP Board of Trustees to develop a new financial framework based on clearly defined principles. The IGC asks the Board to establish, as soon as possible, a small working group with clear Terms of Reference to develop such a framework. The IGC expects an IGC working party to consider the Board recommendations no later than March 2012.
- e) MSPs are encouraged to continue to increase their contributions so that the overall proportion of non-Japanese contributions rises steadily over the years.

### Paragraph 3 : New membership

- a) Representatives welcome the membership of Norway as approved by the Board at its meeting in March 2008.
- b) Representatives agree that the organisation should continue to encourage potentially interested parties to apply for membership of HFSP, subject to the quality and capacity of fundamental biological research conducted by that country, and by its willingness and ability to support the HFSP financially.
- c) Negotiations with new countries regarding membership should be on the basis of the new funding framework.
- d) Representatives note that the contributions of any new members are to be added to the total amount contributed by the other MSPs.

### Paragraph 4 : Next Meeting

- a) Representatives expect an IGC to be held in order to agree on the new financial framework before the end of 2012. MSP contributions under the new framework are to be negotiated in 2013.

# ANNEX

## Canberra budgetary guidelines 2011-2013 (in k local currencies)

| MSP               | Currency | Budget FY 2011 | Budget FY 2012 | Budget FY 2013 |
|-------------------|----------|----------------|----------------|----------------|
| Australia         | USD      | 622            | 647            | 673            |
| Canada            | CAD      | 1,611          | 1,675          | 1,742          |
| EU                | EUR      | 4,319          | 4,492          | 4,672          |
| France**          | EUR      | 1,553 **       | 1,615 **       | 1,679 **       |
| Germany           | EUR      | 3,795          | 3,947          | 4,105          |
| India             | USD      | 914            | 951            | 989            |
| Italy             | EUR      | 816            | 849            | 883            |
| Japan*            | USD      | 29,523 *       | 29,523 *       | 29,523 *       |
| New Zealand       | USD      | 118            | 123            | 128            |
| Norway            | USD      | 563            | 585            | 608            |
| Republic of Korea | USD      | 722            | 751            | 781            |
| Switzerland       | CHF      | 757            | 787            | 818            |
| UK                | GBP      | 1,258          | 1,309          | 1,361          |
| USA               | USD      | 10,327         | 10,740         | 11,170         |

\* Japan: a review of the program's performance in Japan will be conducted. This amount is subject to change, depending on its results.

\*\* France: indicative figures

The percentage contribution of Japan is 48.4% (FY 2011), 47.4% (FY 2012) and 46.5% (FY 2013).

1 USD=0.75 EUR, 1 CAD, 1.14 CHF and 0.65 GBP

Australia  
Prof Warwick ANDERSON (Chair of the Conference)

Canada  
Dr Alain BEAUDET

European Union  
Dr Bernard MULLIGAN

France  
Dr Kaddour RAISSI

Germany  
Dr Ulrich SCHLÜTER

K. VijayRaghavan

India  
Prof Vijay RAGHAVAN

Italy  
Prof Piergiorgio STRATA

Japan  
Mr Itaru WATANABE

New Zealand  
Prof Graeme FRASER

Norway  
Director Anders HANNEBORG

Republic of Korea  
Mr Kidong SONG

Switzerland  
Dr Isabella BERETTA

United Kingdom  
Dr Mark PALMER

United States of America  
Ms Vanessa RICHARDSON

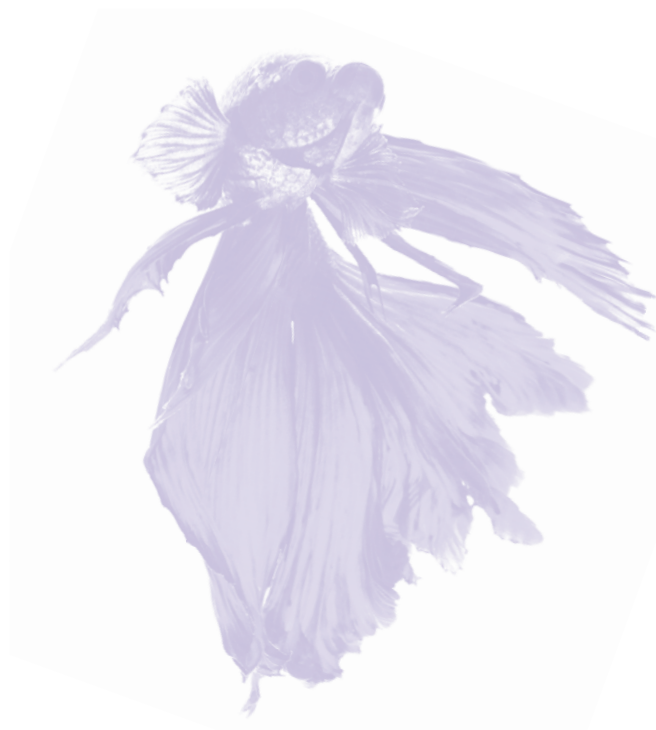
# A.3

## SUMMARY OF DECISIONS OF THE BOARD OF TRUSTEES IN FY 2012

### **46<sup>th</sup> BOARD MEETING (SEPTEMBER 2012)**

While reaffirming its intention to continue to support the Fellowship and Career Development programs, the Board established the Research Grant program as the highest priority for funding, should budgetary restrictions be necessary.

The Board requested the European Commission to host the 7<sup>th</sup> Intergovernmental Conference in 2013.



## 47<sup>th</sup> BOARD MEETING (MARCH 2013)

The Board approved the following awards for funding:

- 33 Research Grants (23 Program Grants and 10 Young Investigators), with 1 Program Grant on the reserve list;
- 70 Fellowships (61 Long-Term Fellowships and 9 Cross-Disciplinary Fellowships), with a reserve list;
- 8 Career Development Awards, with 2 on the reserve list.

The Program Activity Plan and Budget for FY 2013 were approved.

The Board agreed to extend the policy on conflict of interest as follows and to update the appropriate guidelines and Terms of Reference:

1. Members of the HFSP fellowship review committee are not permitted to act as host supervisors for HFSP fellowship applicants during the tenure of their panel membership though they may provide one of the two reference letters for a fellowship applicant, leaving the room while the application is discussed;

2. Members of the Board of Trustees and the Council should not apply for HFSP grant support or act as host supervisors of HFSP fellowship applicants during their appointment;

3. If a CDA candidate applies to the institute/ University of a CDA review committee member, the member will leave the room while the application is discussed.

The Board approved the proposal of Switzerland to host the 14<sup>th</sup> Awardees meeting and 25<sup>th</sup> Anniversary celebrations in 2014.

The Board requested the Council to consider whether HFSP should formulate a policy on Open Access publishing.

It was agreed to postpone the appointment of further statutory auditors until the role of this body has been discussed by the Board.

The Board agreed on wording to be added to the By-Laws to fulfill the requirement of French law that internal regulations acknowledge the risk of sexual and moral harassment and describe how it will be dealt with, should any such case arise.

# A.4

## LONG-TERM AND CROSS-DISCIPLINARY FELLOWSHIPS AWARDED IN 2012<sup>5</sup>

### 1. Long-Term Fellowships

| Name                     | Nationality     | Host institute                                                       | Host country    |
|--------------------------|-----------------|----------------------------------------------------------------------|-----------------|
| ALBUS Christin           | GERMANY         | Weizmann Institute of Science, Rehovot                               | ISRAEL          |
| AMAN Andrew              | USA             | University of Vienna                                                 | AUSTRIA         |
| BAKER Lindsay            | CANADA          | Utrecht University                                                   | THE NETHERLANDS |
| BARRAL Jérémie           | FRANCE          | New York University                                                  | USA             |
| BELLON Anaïs             | FRANCE          | University of Cambridge                                              | UK              |
| BRAUNSCHWEIG Ulrich      | AUSTRIA         | University of Toronto                                                | CANADA          |
| BUSSKAMP Volker          | GERMANY         | Harvard Medical School, Boston                                       | USA             |
| CACCHIARELLI Davide      | ITALY           | Harvard University, Cambridge                                        | USA             |
| CHOU Hsin-Hung           | TAIWAN          | University of Cambridge                                              | UK              |
| DUDERSTADT Karl          | USA             | University of Groningen                                              | THE NETHERLANDS |
| FOURNIER Julien          | FRANCE          | Max Planck Institute for Brain Research, Frankfurt am Main           | GERMANY         |
| FOURNIER-LEVEL Alexandre | FRANCE          | University of Melbourne                                              | AUSTRALIA       |
| FRANK Thomas             | GERMANY         | Friedrich Miescher Institute for Biomedical Research, Basel          | SWITZERLAND     |
| GALLEGO BARTOLOME Javier | SPAIN           | The Salk Institute, La Jolla                                         | USA             |
| GALLI Matilde            | ITALY           | University of California, San Francisco                              | UK              |
| GE Liang                 | CHINA           | University of California, Berkeley                                   | USA             |
| GEVA-ZATORSKY Naama      | ISRAEL          | Harvard Medical School, Boston                                       | USA             |
| GIORDANO Rosina          | ITALY/URUGUAY   | The University of Queensland, Brisbane                               | AUSTRALIA       |
| GUIZETTI Julien          | GERMANY         | Institut Pasteur, Paris                                              | FRANCE          |
| HANGYANE BENKOVICS Anna  | HUNGARY         | Cold Spring Harbor Laboratory                                        | USA             |
| HEHEMANN Jan-Hendrik     | GERMANY         | Massachusetts Institute of Technology, Cambridge                     | USA             |
| HERRERO Jose             | SPAIN           | Columbia University, New York                                        | USA             |
| HONJOH Sakiko            | JAPAN           | University of Wisconsin, Madison                                     | USA             |
| IBARRA Arkaitz           | SPAIN           | The Salk Institute for Biological Studies, La Jolla                  | USA             |
| IKUSHIMA Hiroaki         | JAPAN           | University of Texas Southwestern Medical Center, Dallas              | USA             |
| ISHIUCHI Takashi         | JAPAN           | Institute of Genetics and Molecular and Cellular Biology, Strasbourg | FRANCE          |
| KAMIGAKI Tsukasa         | JAPAN           | University of California, Berkeley                                   | USA             |
| KAPLAN Noam              | ISRAEL          | University of Massachusetts Medical School, Worcester                | USA             |
| KARAM TEIXEIRA Felipe    | BRAZIL/PORTUGAL | NYU Langone Medical Center, New York                                 | USA             |
| KARNANI Mahesh           | FINLAND         | Columbia University, New York                                        | USA             |

| Name                   | Nationality                   | Host institute                                                         | Host country    |
|------------------------|-------------------------------|------------------------------------------------------------------------|-----------------|
| KITANO Masahiro        | JAPAN                         | University of South California, Los Angeles                            | USA             |
| KWON Seok-Kyu          | KOREA                         | The Scripps Research Institute, La Jolla                               | USA             |
| LASSANCE Jean-Marc     | BELGIUM                       | Harvard University, Cambridge                                          | USA             |
| LESBURGUERES Edith     | FRANCE                        | New York University                                                    | USA             |
| LIENERT Florian        | SWITZERLAND                   | Harvard Medical School, Boston                                         | USA             |
| LOOSE Martin           | GERMANY                       | Harvard Medical School, Boston                                         | USA             |
| LOPEZ-MOSQUEDA Jaime   | USA/MEXICO                    | Johann Wolfgang Goethe University, Frankfurt am Main                   | GERMANY         |
| MAHAMID Julia          | ISRAEL                        | Max Planck Institute of Biochemistry, Martinsried                      | GERMANY         |
| MANCERA RAMOS Eugenio  | MEXICO                        | University of California, San Francisco                                | USA             |
| MATSUOKA Ryota         | JAPAN                         | Max Planck Institute for Heart and Lung Research, Bad Nauheim          | GERMANY         |
| MILLIUS Arthur         | USA                           | RIKEN Center for Developmental Biology, Kobe                           | JAPAN           |
| MIYANISHI Masanori     | JAPAN                         | Stanford University                                                    | USA             |
| MORSUT Leonardo        | ITALY                         | University of California, San Francisco                                | USA             |
| MUDRIK Liad            | ISRAEL                        | California Institute of Technology, Pasadena                           | USA             |
| NAKAMURA Masayoshi     | JAPAN                         | Carnegie Institution for Science, Stanford                             | USA             |
| NOZAWA Kayo            | JAPAN                         | Ludwig Maximilian University, Munich                                   | GERMANY         |
| PAPENFORT Kai          | GERMANY                       | Princeton University                                                   | USA             |
| PARDO-VAZQUEZ Jose     | SPAIN                         | Champalimaud Centre for the Unknown, Lisbon                            | PORTUGAL        |
| POO Cindy              | USA                           | Champalimaud Centre for the Unknown, Lisbon                            | PORTUGAL        |
| PREIBISCH Stephan      | GERMANY                       | Albert Einstein College of Medicine, Bronx                             | USA             |
| RADOSHEVICH Lilliana   | USA                           | Institut Pasteur, Paris                                                | FRANCE          |
| RANDLETT Owen          | CANADA                        | Harvard University, Cambridge                                          | USA             |
| REGOT Sergio           | SPAIN                         | Stanford University                                                    | USA             |
| REYMANN Anne-Cécile    | FRANCE                        | MPI of Molecular Cell Biology and Genetics, Dresden                    | GERMANY         |
| RIESCH Rüdiger         | GERMANY                       | University of Sheffield                                                | UK              |
| ROSAS-BALLINA Mauricio | MEXICO                        | University of Basel                                                    | SWITZERLAND     |
| ROSELLO-DIEZ Alberto   | SPAIN                         | Sloan Kettering Institute, New York                                    | USA             |
| SAVIR Yonatan          | ISRAEL                        | Harvard Medical School, Boston                                         | USA             |
| SCHRAMEK Daniel        | AUSTRIA                       | The Rockefeller University, New York                                   | USA             |
| SCHWANK Gerald         | AUSTRIA                       | Royal Netherlands Academy of Arts and Sciences, Utrecht                | THE NETHERLANDS |
| SCHWARTZ Schraga       | ISRAEL /<br>SWITZERLAND / USA | Broad Institute of Harvard and MIT, Cambridge                          | USA             |
| SCHWESSINGER Benjamin  | GERMANY                       | University of California, Davis                                        | USA             |
| SCHWIEDRZIK Caspar     | GERMANY                       | The Rockefeller University, New York                                   | USA             |
| SHABAB Mohammed        | INDIA                         | Center for Medical Agricultural and Veterinary Entomology, Gainesville | USA             |
| SHARON Gil             | ISRAEL                        | California Institute of Technology, Pasadena                           | USA             |
| SIEGERT Sandra         | GERMANY                       | Massachusetts Institute of Technology, Cambridge                       | USA             |
| SINHA Raunak           | INDIA                         | University of Washington, Seattle                                      | USA             |
| SOSULSKI Dara          | USA                           | University College London                                              | UK              |
| STIESS Michael         | GERMANY                       | University of Basel                                                    | SWITZERLAND     |
| SUGIOKA Kenji          | JAPAN                         | University of Oregon, Eugene                                           | USA             |
| SWEET Rebecca          | USA                           | Australian National University, Canberra                               | AUSTRALIA       |
| TAGAMI Shunsuke        | JAPAN                         | MRC Laboratory of Molecular Biology, Cambridge                         | UK              |
| TAKEUCHI Daigo         | JAPAN                         | Massachusetts Institute of Technology, Cambridge                       | USA             |
| TIROSH Itay            | ISRAEL                        | Broad Institute, Cambridge                                             | USA             |
| TSCHOPP Patrick        | SWITZERLAND                   | Harvard Medical School, Boston                                         | USA             |
| TURK MACLEOD Rebecca   | USA                           | ESPCI, Paris                                                           | FRANCE          |
| VALEN Eivind           | NORWAY                        | Harvard University, Cambridge                                          | USA             |
| WILHELM Christoph      | GERMANY                       | NIAID / NIH, Bethesda                                                  | USA             |
| ZARRINE-AFSAR Arash    | CANADA                        | University of Zurich                                                   | SWITZERLAND     |
| ZIBLAT Roy             | ISRAEL                        | Harvard University, Cambridge                                          | USA             |

<sup>5</sup> These awards were initiated during FY 2012.

For a list of fellowships awarded in 2013, see the HFSP web site (<http://www.hfsp.org/>).

## 2. Cross-Disciplinary Fellowships

| Name              | Nationality     | Host institute                               | Host country |
|-------------------|-----------------|----------------------------------------------|--------------|
| BARANES Adrien    | FRANCE          | Columbia University Medical Center, New York | USA          |
| CHAN Jefferson    | CANADA          | University of California, Berkeley           | USA          |
| MONDAL Samiran    | INDIA           | Kyoto University Graduate School of Medicine | JAPAN        |
| RUIJGROK Paul     | THE NETHERLANDS | Stanford University                          | USA          |
| THUTUPALLI Shashi | INDIA           | Princeton University                         | USA          |



# A.5

## CAREER DEVELOPMENT AWARDS MADE IN 2012<sup>6</sup>

| Name                  | Nationality     | Institute of CDA                                                     | Country of CDA |
|-----------------------|-----------------|----------------------------------------------------------------------|----------------|
| ASHER Gad             | ISRAEL          | Weizmann Institute of Science, Rehovot                               | ISRAEL         |
| BARREIRO Luis         | PORTUGAL        | University of Montreal                                               | CANADA         |
| FLEISHMAN Sarel       | ISRAEL          | Weizmann Institute of Science, Rehovot                               | ISRAEL         |
| HOTHORN Michael       | GERMANY         | Friedrich Miescher Laboratory, Tübingen                              | GERMANY        |
| LOCKE James           | UK              | University of Cambridge                                              | UK             |
| POLYMENIDOU Magdalini | GREECE          | University of Zurich                                                 | SWITZERLAND    |
| SMITH Spencer         | USA             | University of North Carolina, Chapel Hill                            | USA            |
| VASTENHOUW Nadine     | THE NETHERLANDS | Max Planck Institute of Molecular Cell Biology and Genetics, Dresden | GERMANY        |

<sup>6</sup> These awards were initiated during FY 2012. For a list of the CDAs awarded in 2013, see the HFSP web site (<http://www.hfsp.org/>).

# A.6

## RESEARCH GRANTS AWARDED IN 2012<sup>7</sup>

Note that nationality is given in brackets if different from country of laboratory

### 1. YOUNG INVESTIGATORS

**Role of exported proteins in the intracellular dynamics of liver-stage falciparum malaria**

BODDEY Justin, Australia  
DINGLASAN Rhoel, (Philippines), USA  
JOST Philipp J., Germany

**Neural basis of behavioural multitasking and coordination by specific hypothalamic circuits**

BURDAKOV Denis, UK  
ADAMANTIDIS Antoine, (Belgium), Canada  
KOROTKOVA Tatiana, Germany

**Neuroscience meets nanotechnology: the key to unlock emotional memories with nanodetectors**

CAMPOLONGO Patrizia, Italy  
DUAN Xiangfeng, (China), USA

**3D spatial structure in multicellular systems: self-assembly, implications and optimization**

GORDON Vernita, USA  
ALLEN Rosalind J., UK  
BJARNSHOLT Thomas, Denmark  
DIGGLE Stephen, UK

**The chemistry of visual trickery: mechanisms of egg colour mimicry in parasitic cuckoos**

HAUBER Mark E., (New Zealand), USA  
GRIM Tomas, Czech Republic  
SHAWKEY Matthew, USA  
WATERHOUSE Geoffrey, New Zealand

**In situ real-time imaging of neurotransmitter signaling using designer optical sensors**

JANOVJAK Harald, (Switzerland), Austria  
HENNEBERGER Christian, (Germany), UK  
JACKSON Colin, (New Zealand), Australia

**Regulating microtubule mechanics from within: towards an understanding of intraluminal acetylation**

NACHURY Maxence, (France), USA  
THERY Manuel, France

**The mechanistic basis of working memory in prefrontal cortical circuits**

RENART Alfonso, (Spain), Portugal  
CHADDERTON Paul, UK  
ROYER Sebastien, (Canada), Republic of Korea

**Quantitative modeling of expression pattern evolution in insect development**

TOMANCAK Pavel, (Czech Republic), Germany  
BERGMAN Casey, (USA), UK  
OHLER Uwe, (Germany), USA

### 2. PROGRAM GRANTS

**Stem cell dynamics in time and space**

ANDREWS Peter, UK  
COCA Daniel, UK  
PERA Martin, USA

**Are roots in the dark? Phytochrome-mediated shoot and root development**

BALDWIN Ian, (USA), Germany  
OH Kyunghwan, Republic of Korea  
PARK Chung-Mo, Republic of Korea

**RNA helicases in RNA/protein body assembly and function: a multi-scale approach**

BRANGWYNNE Clifford, USA  
ECKMANN Christian, (Austria), Germany  
MYONG Sua, (Republic of Korea), USA

**Dynamic mechanisms regulating embryonic stem cell fate choice**

BRICKMAN Joshua, UK  
BARKAI Naama, Israel  
BEN-YAKAR Adela, (Israel), USA

**Morphodynamics of mammalian planar cell polarity - a quantitative approach**

CHEN Ping, USA  
AVRAHAM Karen, Israel  
MATSUZAKI Fumio, Japan  
SPRINZAK David, Israel

**Direct DNA damage response activation by nuclear non-coding short RNAs in mammals**

D'ADDA DI FAGAGNA Fabrizio, Italy  
CARNINCI Piero, Japan  
ZAVOLAN Mihaela, (Romania), Switzerland

**Physical principles in the self-assembly of immature HIV-1 particles**

DRAGNEA Bogdan, (Romania), USA

REIN Alan, USA

SVERGUN Dmitri I., (Russia), Germany

VAN DER SCHOOT Paul, The Netherlands

**Stem cell dynamics at the single-cell level**

ELOWITZ Michael, USA

ALON Uri, Israel

SURANI Azim, UK

**Value-based decision making in *Drosophila* foraging: genes, computations and behaviour**

FAISAL Aldo, (Italy), UK

DICKINSON Michael H., USA

RIBEIRO Carlos, Portugal

**Networks, genetics, clocks and psychosis: a multi-disciplinary and multi-scale approach**

FORGER Daniel, USA

PIGGINS Hugh, UK

TAKUMI Toru, Japan

**Ribosomal signalling and specificity in cotranslational protein processing and folding**

FRYDMAN Judith, USA

DEUERLING Elke, Germany

RADFORD Sheena, UK

**Nano-Mechano-Biology: spatiotemporal remodeling of membrane nanoplatforms under mechanical forces**

GARCIA-PARAJO Maria, Spain

CAMBI Alessandra, (Italy), The Netherlands

LIDKE Diane, USA

MAYOR Satyajit, India

**The role of subsurface structure in biological adhesion: insects to lizards**

IRSCHICK Duncan, USA

CROSBY Alfred, USA

FEDERLE Walter, UK

**Probing mechano-transduction by cell-cell junctions at the nano- and micro-scales**

LADOUX Benoit, France

LIM Chwee Teck, Singapore

MEGE René-Marc, France

NELSON W. James, (UK), USA

**In vivo functional imaging and high-resolution manipulations of hippocampal memory circuits**

LOSONCZY Attila, (Hungary), USA

BOLZE Frederic, France

VAZIRI Alipasha, Austria

ZEMELMAN Boris, USA

**Role of cytoskeletal kinases in the mechanosensory feed-back regulation of muscle**

MAYANS Olga, (Spain), UK

BENIAN Guy M., USA

KALBITZER Hans Robert, Germany

LU Hang, USA

**The striatal cholinergic system and attention for learning: from neurotransmission to personality**

NIV Yael, (Israel), USA

CHRISTAKOU Anastasia, (Greece), UK

MORRIS Genela, Israel

WICKENS Jeffery, (New Zealand), Japan

**In silico ancestral rhodopsin reconstruction using multiconfigurational quantum chemistry**

OLIVUCCI Massimo, Italy

CHANG Belinda, (USA), Canada

**Quantitative analysis of somitogenesis using avian transgenic lines and real time imaging**

POURQUIE Olivier, France

FRANCOIS Paul, (France), Canada

LANSFORD Rusty, USA

**Magnetogenetics: remote stimulation of mammalian neurocircuitry using nanoparticle heating**

PRALLE Arnd, (Germany), USA

KNOPFEL Thomas, (Germany), Japan

PARAK Wolfgang, Germany

SCHÜLER Dirk, Germany

**Single cell lineage tracing to understand hematopoietic development and differentiation**

PRINGLE Anne, USA

BRENNER Michael, USA

FRICKER Mark, UK

**From the end to the beginning: termination and ribosome recycling in eukaryotic translation**

SPAHN Christian, Germany

PESTOVA Tatyana, (Russia), USA

SANBONMATSU Karissa, USA

YUSUPOV Marat, France

**Information processing and computation in fish groups**

TKACIK Gasper, (Slovenia), Austria

COUZIN Iain, (UK), USA

SCHNEIDMAN Elad, Israel

**From swarm intelligence to living buildings. Novel concepts of managing internal climates**

TURNER J Scott, USA

MAHADEVAN L, USA

MARAIS Eugene, Namibia

SANE Sanjay, (USA), India

SOAR Rupert, UK

<sup>7</sup> These awards were initiated during FY 2012.

For a list of the Research Grants awarded in 2013, see the HFSP web site (<http://www.hfsp.org/>).



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The International Human Frontier Science Program  
Organization (HFSPPO)

12 quai Saint Jean

BP 10034

67080 Strasbourg CEDEX

France

Fax. +33 (0)3 88 32 88 97

e-mail: [info@hfsp.org](mailto:info@hfsp.org)

Web site: [www.hfsp.org](http://www.hfsp.org)

Japanese web site: <http://jhfsp.jsf.or.jp>

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European Commission - Directorate General Research (DG RESEARCH)



**France**  
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Ministère de l'Enseignement Supérieur et de la Recherche (MESR)  
Région Alsace



**Germany**  
Federal Ministry of Education and Research (BMBF)



**India**  
Department of Biotechnology (DBT), Ministry of Science and Technology



**Italy**  
Ministry of Education, University and Research (CNR)



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



**Republic of Korea**  
Ministry of Science, ICT and Future Planning (MSIP)



**New Zealand**  
Health Research Council of New Zealand (HRC)



**Norway**  
Research Council of Norway (RCN)



**Switzerland**  
State Secretariat for Education, Research and Innovation (SERI)



**United Kingdom**  
Biotechnology and Biological Sciences Research Council (BBSRC)  
Medical Research Council (MRC)



**United States of America**  
National Institutes of Health (NIH)  
National Science Foundation (NSF)



The International Human Frontier  
Science Program Organization (HFSP)  
12 quai Saint Jean - BP 10034  
67080 Strasbourg CEDEX - France  
Fax. +33 (0)3 88 32 88 97  
e-mail: [info@hfsp.org](mailto:info@hfsp.org)  
Web site: [www.hfsp.org](http://www.hfsp.org)  
Japanese web site: <http://jhfsp.jsf.or.jp>