Funding the Frontiers

HFSP Funding for international research collaboration

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What is Frontier Research?

Frontier Research is research which

• enters new territory
• tries to answer significant questions
• has a certain risk associated with it
• does not require preliminary results, in order to be funded
• changes our views of a given field
History & Member Countries

- Initiative by Japanese government & scientists during the 1980's
- Proposed in 1987 at the Venice Economic Summit of the G7
- Program implemented in 1989 in Strasbourg, France
- First grants and fellowships awarded in 1990

Member countries
1989: Canada, France, Germany, Italy, Japan, UK, USA, European Union
1990: Switzerland
2004: Australia and Republic of Korea
2006: India and New Zealand
2008: Norway

Annual budget: ~ 55 million USD
Complex Systems

• are systems which represent more than the sum of their parts
• are emergent, i.e. display unexpected properties
• and create multiple levels of non-trivial collective structures
• and therefore require interdisciplinary approaches
EXAMPLES for COMPLEX SYSTEMS

- natural systems, such as the human genome, the human brain, as well as other multi-cellular systems and their hierarchies
- human social systems
- the ecosphere (interacting living organisms)
- The climate and the dynamic system earth
- Artificial systems such as the internet, power grids, other distributed software systems
Postdoctoral Fellowships

- **Long-Term Fellowships**: For life scientists to obtain postdoctoral training abroad in a different research area
- **Cross-Disciplinary Fellowships**: For scientists from outside the life sciences (chemistry, mathematics, bio-informatics, physics, engineering & material sciences) to obtain postdoctoral training in biology

**Eligibility Criteria**

- Applicants from any country can apply to work in one of the HFSP member countries
- Application to work **in a new country** within 3 years after obtaining PhD degree
- Must have one first-authorship paper (discipline dependent)
Career Development Award (CDA)

Funding mechanism to support the post doc – group leader transition enabling
• HFSP Fellows to develop their independent research program in their own laboratories
• in their home country or in any other member country of the HFSP

Eligibility:
• Completion of at least 2 full years of HFSP Fellowship at the start of CDA
• Application within 2 years after completion of the LT Fellowship
HFSP research grants enable scientists (group leaders) in different countries to collaborate on well focused projects.

Team leader must be from a member country: Australia, Canada, France, Germany, India, Italy, Japan, New Zealand, Norway, Republic of Korea, Switzerland, UK, USA & European Union.

Funding
$250,000 per year for a team of 2; $350,000 for a team of 3; $450,000 for a team of 4 or more (maximum funds) – three year grant. Penalties for team members from the same country. Between 32 and 35 new grants each year.

Team Size
Small is beautiful. On average only 2 or 3 teams of 5 reach the final stage each year and of these 1 is funded.
Overview of FY 2012 payments to grant team members according to country

Research Grants

Award payments to HFSP fellows in FY 2012 according to host country

Fellowships
Uniqueness of HFSP

**Exceptional quality** - 18 Nobel Prize winners selected long before they obtained this prestigious award; its reputation is increasing because a) it is the only funding agency which permits comparisons on a global level, and b) because it focuses on the frontiers of the life sciences exclusively.

**Long-term perspective** - this arises out of its emphasis on the frontiers of the life sciences. These have only recently been opened and guarantee significant challenges for the forthcoming decade, at least.

**International collaboration** - HFSP is probably the only program in the world which permits collaborations even beyond continental borders, as long as such collaborations offer an appropriate added-value;
Human Frontier Science Program

Funding the Frontiers of the Life Sciences

Thank you very much!

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www.hfsp.org