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## 2009 - Research Funding in numbers

In 2009 the Swiss National Science Foundation (SNSF) granted funding to the total value of 707 million Swiss francs, $6 \%$ more than in 2008 ( 663 million francs). This financing was used to support around 2,900 research undertakings.

The statistics include the applications handled and approved during the financial year and contributions paid out in 2009 in the area of National Centres of Competence in Research. Additional contributions are not treated as separate applications, but are contained in the approved amounts. The data in the statistical part of the annual report are not comparable with the figures in the annual statement.

Full version of the statistics: www.snsf.ch > About us > Facts \& Figures > Statistics

## 1. Funding in overview

### 1.1 Funding by science area

Amounts in millions CHF

Distribution of the approved amounts


- Humanities and Social Sciences
- Mathematics, Natural and Engineering Sciences
$\square$ Biology and Medicine

|  | Approved amount | Women \| Men |  |
| :--- | ---: | :--- | :--- |
| Humanities and Social Sciences | 172.6 | $29 \%$ | $71 \%$ |
| Mathematics, Natural and Engineering Sciences | 262.8 | $11 \%$ | $89 \%$ |
| Biology and Medicine | 271.4 | $17 \%$ | $83 \%$ |
| Unassignable | 0.3 |  |  |
| Total | 707.1 | $18 \%$ | $82 \%$ |

The distribution between the scientific areas has changed slightly in comparison with the previous year. Since in 2009 only very limited funds were available for the Special Programme University Medicine (SPUM) and the Patient-oriented Clinical Research (PaKliF) in comparison with 2008, the "Biology and Medicine" portion of the approved funds has been reduced by 4 per cent.

### 1.2 Funding by type of funding

Amounts in millions CHF

Distribution of the approved amounts


Project Funding
$\square$ Individual Funding
Scientific Conferences, Publication Grants, International Co-operation

## - National Research Programmes (NRP)

National Centres of Competence in Research (NCCR)

|  | Amount | Number |
| :--- | ---: | ---: |
| Investigator-driven Research | 620.0 | 2,613 |
| Project Funding | 441.9 | 1,287 |
| Individual Funding | 161.4 | 783 |
| Scientific Conferences | 1.1 | 166 |
| Publication Grants | 2.3 | 155 |
| International Co-operation | 13.4 | 222 |
| Targeted Research | 87.1 | 256 |
| National Research Programmes (NRP) | 17.2 | 46 |
| National Centres of Competence in Research (NCCR) | 69.9 | 210 |
| Total | 707.1 | 2,869 |

As in previous years, Project Funding was at the centre of the SNSF's activity in 2009.
The proportion of Targeted Research (12.3 \%) and Individual Funding ( $22.8 \%$ ) of the overall approved amount increased slightly in comparison to 2008.

### 1.3 Funding by institution and science area

Amounts in millions CHF

Distribution of the approved amounts (incl. overhead) ${ }^{1}$



### 1.4 Use of the approved amounts

Total amount: $\mathbf{7 0 7 . 1}$ million CHF


As in previous years, the approved funds were used by the researchers mainly for the cost of personnel, whether for the financing of individual salaries/scholarships in the context of funding for individuals or for the appointment of personnel in research projects.

### 1.5 Personnel in research projects

Around 5,000 persons were employed in research projects in 2009. In addition, over 800 were supported in the context of Individual Funding and 1,400 were employed through the National Research Programmes and Centres of Competence in Research.

|  | Total | Women \| Men |  |  |
| :--- | ---: | :--- | :--- | :--- |
| Scientists $^{1}$ | $33 \%$ | $44 \%$ | $56 \%$ |  |
| Personnel at doctoral level | $52 \%$ | $39 \%$ | $61 \%$ |  |
| Technicians, support staff | $15 \%$ | $63 \%$ | $37 \%$ |  |
| Total | $100 \%$ | $44 \%$ | $56 \%$ |  |

${ }^{1}$ Scientific personnel and Post-docs

Funding for research projects primarily benefits the promotion of young scientists in Switzerland. Thus $79 \%$ of the collaborators are 35 years or younger ( $96 \%$ in the case of personnel at doctoral level, $57 \%$ for other scientists).

### 1.6 Success rates

Amounts in millions CHF

|  |  | Success rate ${ }^{1}$ |  | Number of <br> applications <br> submitted | Number of <br> aplications <br> approved | Approved <br> amount |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Total | Women | Men |  |  |  |  |
| Individual Funding | $58 \%$ | $50 \%$ | $60 \%$ | 2,209 | 1,287 | 441.9 |
| Scientific Conferences | $57 \%$ | $56 \%$ | $57 \%$ | 1,367 | 783 | 161.4 |
| Publication Grants | $95 \%$ | $96 \%$ | $95 \%$ | 174 | 166 | 1.1 |
| International Co-operation ${ }^{2}$ | $86 \%$ | $85 \%$ | $86 \%$ | 181 | 155 | 2.3 |
| National Research Programmes $^{3}$ | $39 \%$ | $34 \%$ | $40 \%$ | 274 | 108 | 11.0 |
| National Centres of Competence in Research $^{4}$ | - | - | - | - | - | - |

${ }^{1}$ Ratio of the number applications approved to the number of applications submitted
${ }^{2}$ Comprises SCOPES and Research Partnerships North-South
${ }^{3}$ Relates only to the new series NRP 61, 62 and 63; 2-stage evaluation procedure
4 No new NCCR in 2009

Success rates vary according to the type of funding. Since 2008 the SNSF carries out an annual gender monitoring, which investigates the success rates of both sexes.
It should be noted, that the success rates of the Project and Individual Funding contain both new applications and applications for continuation.

## 2. Project Funding

In this funding category, the SNSF supports qualitatively high grade research projects in all disciplines, whose themes are selected by the respective researchers themselves. The grants include contributions for personnel costs, equipment consumables and travel expenses.

### 2.1 Funding by science area ${ }^{1}$

Amounts in millions CHF

Distribution of the approved amounts


| Division I: Humanities and Social Sciences | Amount |
| :--- | ---: |
| Division II: Mathematics, Natural and Engineering Sciences | 78.1 |
| Division III: Biology and Medicine | 150.8 |
| Interdisciplinary Research and Sinergia | 153.0 |
| Total | 61.1 |
| 1 Incl. Scientific Conferences | 443.0 |

Humanities and Social Sciences

- Mathematics, Natural and Engineering Sciences
- Biology and Medicine
- Interdisciplinary Research and Sinergia


### 2.2 Funding by group of disciplines

Amounts in millions CHF

## Division I: Humanities and Social Sciences

## Subdivision of the approved amounts



|  | Number | Amount |
| :--- | ---: | ---: |
| Philosophy, Psychology, Educational Science and Religious Science | 114 | 19.0 |
| Legal and Social Sciences, Economics | 111 | 25.7 |
| History | 51 | 8.0 |
| Archaeology, Ethnology, Visual Arts and Social Urban Science | 45 | 9.3 |
| Linguistics and Literature | 50 | 7.1 |
| Fields for Universities of Applied Sciences (incl. DORE) | 80 | 9.0 |
| Total $^{1}$ | 451 | 78.1 |

${ }^{1}$ Special funding is included:
DORE ( 76 grants; 8.6 million CHF), Research Infrastructure ( 9 grants; 10.6 million CHF), R’Equip (1 grant;
0.1 million CHF), Scientific Conferences ( 119 grants; 0.8 million CHF), Summer Schools ( 115 grants; 0.3 million CHF)

- Philosophy, Psychology, Educational Science and Religious Science
- Legal and Social Sciences, Economics
- History

Archaeology, Ethnology, Visual Arts and Social Urban Science

- Linguistics and Literature
$\square$ Fields for Universities of Applied Sciences

In 2009, the lion's share of the project contributions ( 33 per cent) went to the broad group of disciplines, legal and social sciences and economics. An important emphasis in the assessment of applications lay in the evaluation and the long-term support of large research infrastructures. These include mainly social sciences undertakings, which are newly impacted by an overall European-promoted accumulation of data related to the issue of the ageing population (see p. 13).

## Division II: Mathematics, Natural and Engineering Sciences

## Subdivision of the approved amounts



- Mathematics
- Astronomy, Astrophysics and Space Sciences

Chemistry

- Physics

Engineering Sciences
Environmental Sciences
Earth Sciences

|  | Number | Amount |
| :--- | ---: | ---: |
| Mathematics | 58 | 13.4 |
| Astronomy, Astrophysics and Space Sciences | 25 | 9.9 |
| Chemistry | 96 | 30.5 |
| Physics | 132 | 46.5 |
| Engineering Sciences | 124 | 24.8 |
| Environmental Sciences | 39 | 11.2 |
| Earth Sciences | 57 | 14.5 |
| Total $^{1}$ | 531 | 150.8 |

${ }^{1}$ Special funding is included:
Research Infrastructure (1 grant; 0.4 million CHF), R'Equip, ( 69 grants; 13.1 million CHF), FORCE/FINES, ( 13 grants; 6.0 million CHF), ERA-ASPERA ( 2 grants; 0.8 million CHF), EUROCORES ( 8 grants; 2.3 million CHF), Scientific Conferences ( 21 grants, 0.09 million CHF)

The distribution of the approved amounts within the different groups of disciplines has changed very little relative to the previous year, with the exception of the engineering sciences (2007: 19.3 million CHF; 2008: 33.0 million CHF). Support for the purchase and improvement of laboratory equipment (R'Equip) was further strengthened in 2009 and the number of approved applications (40) almost doubled in comparison to the previous year. The SNSF also approved, for the first time, two projects in the context of an ERA-NET research programme (ASPERA: astroparticle physics).

## Division III: Biology and Medicine

Subdivision of the approved amounts


Basic Biological Research

- General Biology

■ Basic Medical Sciences

- Experimental Medicine
- Clinical Medicine
- Preventive Medicine
- Social Medicine

|  | Number | Amount |
| :--- | ---: | ---: |
| Basic Biological Research | 145 | 59.2 |
| General Biology | 50 | 19.6 |
| Basic Medical Sciences | 77 | 29.8 |
| Experimental Medicine | 53 | 19.8 |
| Clinical Medicine | 61 | 17.5 |
| Preventive Medicine (Epidemiology/Early Diagnosis/Prevention) | 9 | 6.2 |
| Social Medicine | 4 | 0.9 |
| Total ${ }^{1}$ | 399 | 153.0 |

[^0]In 2009, the division of Biology and Medicine significantly expanded the spectrum of their contributions to European and international research networks with participation in many European initiatives, such as the EUROCORES programmes EuroMEMBRANE and EuroSYNBIO, the ERA-NET EuroNanoMed and the EDCTP programme (European and Developing Countries Clinical Trials Partnership).

### 2.3 Interdisciplinary Research and Sinergia

## Interdisciplinary Research

In 2009 the SNSF supported a total of 33 projects with 11.7 million CHF. Both the number of submitted applications and the approved grants, as well as the requested and approved funding amounts are higher in comparison with 2008.

## Sinergia

Amounts in millions CHF

|  | Number | Amount |
| :--- | ---: | ---: |
| Interdisciplinary Research | 22 | 27.7 |
| Disciplinary Research | 17 | 21.7 |
| Total | 39 | 49.4 |

### 2.4 Grants, rejections and reductions

Amounts in millions CHF


### 2.5 Applications and grants since the year 2000

Number of applications and grants


The number of applications submitted for Project Funding increased continually from 2005 to 2009. The number of grants also increased from 2005 to 2008. In 2009 the SNSF approved fewer applications than in the previous year, with the goal of increasing the financial allocation for each approved project.

- Number of applications submitted
- Number of applications approved
- Applications by women
- Applications by women approved


### 2.6 Requested and approved amounts since the year 2000

Amounts in millions CHF

Total of requested and approved amounts


Since 2007 the requested project funding has increased more than the corresponding budget of the SNSF. For the year 2008, the sum of the approved funds is comparatively high, since for the Special Programme University Medicine (SPUM) and the Patient-oriented Clinical Research (PaKliF) specifically assigned means of approx. 53 million francs were made available. In 2009 there was only a very restricted scope for grants for PaKliF.

- Total of requested funding
- Total of approved funding
- Amount requested by women
- Amount granted to women


## 3. Individual Funding

With a multi-faceted fellowship and grants programme the SNSF provides targeted career support for highly promising young researchers.

### 3.1 Funding by funding instrument

Amounts in millions CHF

|  | Number of applications submitted |  |  | Number of applications approved |  |  | Approved amount |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Women | Men | Total | Women | Men |  |
| Fellowships (prospective) | 669 | 250 | 419 | 456 | 175 | 281 | 25.5 |
| Fellowships (advanced) | 130 | 47 | 83 | 86 | 31 | 55 | 10.1 |
| Ambizione | 146 | 56 | 90 | 53 | 18 | 35 | 23.8 |
| SNSF Professorships ${ }^{1}$ | 193 | 56 | 137 | 63 | 19 | 44 | 72.3 |
| Marie Heim-Vögtlin Subsidies (MHV) ${ }^{1}$ | 106 | 106 | - | 45 | 45 | - | 6.5 |
| Total (excl. ProDoc) | 1,244 | 515 | 729 | 703 | 288 | 415 | 138.2 |
|  |  |  |  |  |  |  |  |
| ProDoc | 123 | 25 | 98 | 80 | 16 | 64 | 23.2 |
| Overall Total (incl. ProDoc) | 1,367 | 540 | 827 | 783 | 304 | 479 | 161.4 |

[^1]
## Success rates by instrument ${ }^{2}$



In total in the category of Individual Funding around 200 more applications were submitted and evaluated than in the previous year ( $+17 \%$ ). In comparison to the previous year in particular, the number of submitted applications for the fellowships for prospective researchers ( +127 applications), Ambizione (+57 applications), the MHV Programme (+22 applications) and ProDoc (+17 applications) increased significantly. For the SNSF Professorships the applications remained at a level similar to the previous year, and for the advanced fellowships there was a slight downturn (-18 applications).

[^2]
## 4. International co-operation and networking

The international involvement of the SNSF manifests itself principally in the transnational co-operation of researchers within the context of Project Funding and Individual Funding. This is supplemented by instruments for use in international collaboration.

### 4.1 Funding by funding instrument

Amounts in millions CHF

|  | Amount |
| :--- | ---: |
| International Short Visits | 0.7 |
| Bilateral Seminars | 0.2 |
| SCOPES Programme | 10.9 |
| Research Partnerships with Developing Countries Scheme | 0.0 |
| International Programmes (ESF etc.) | 1.5 |
| Multilateral Co-operation | 0.1 |
| Total | 13.4 |

### 4.2 International networking in Project Funding

Number of instances of international collaboration



### 4.3 Host countries with fellowship recipients

## Number of fellowship recipients



Nearly 3,400 instances of international collaboration have taken place in total. The table shows the ten countries with which the most frequent collaboration has occurred.

With 542 fellowships for prospective and advanced researchers, the SNSF supported a total of 587 work periods abroad. The graph shows the ten most frequent host countries.

## 5. National Research Programmes (NRP)

The National Research Programmes develop scientifically substantiated solutions to urgent problems of national significance.

### 5.1 NRPs in overview

Amounts in millions CHF ${ }^{1}$

|  | Approved amount $2009^{2}$ | Framework | Overall amount approved up to $2009^{3}$ | Duration |
| :---: | :---: | :---: | :---: | :---: |
| Current NRPs | Total |  | Total |  |
| NRP 53 Musculoskeletal Health - Chronic Pain | 0.0 | 12.0 | 11.7 | 2003-2009 |
| NRP 54 Sustainable Development of the Built Environment | 0.7 | 13.0 | 10.7 | 2004-2010 |
| NRP 56 Language Diversity and Linguistic Competence in Switzerland | 0.0 | 8.0 | 7.8 | 2004-2009 |
| NRP 57 Non-lonising Radiation - Health and Environment | 0.3 | 5.0 | 4.6 | 2006-2010 |
| NRP 58 Religions, the State and Society | 0.9 | 10.0 | 8.9 | 2006-2010 |
| NRP 59 Benefits and Risks of the Deliberate Release of Genetically Modified Plants | 1.3 | 15.0 | 11.6 | 2007-2011 |
| NRP 61 Sustainable Water Management | 8.4 | 12.0 | 8.4 | 2010-2013 |
| NRP 62 Smart Materials | 5.2 | 11.0 | 5.2 | 2010-2014 |
| NRP 63 Stem Cells and Regenerative Medicine | 0.1 | 10.0 | 0.1 | 2010-2014 |
| New NRPs ${ }^{4}$ |  |  |  |  |
| NRP 60 Gender Equality | - | - | - | - |
| NRP 64 Opportunities and Risks of Nanomaterials | - | - | - | - |
| NRP 65 New Urban Quality | - | - | - | - |
| Total | 16.9 | 96.0 | 69.0 |  |

${ }^{1}$ Amounts under 0.05 million CHF are indicated by a zero
${ }^{2}$ Excluding grants for formally terminated programmes ( 0.3 million CHF)
${ }^{3}$ These amounts do not take account of repayments, third party funds, etc.
4 Selection process not yet concluded

In 2009 three new NRPs started. In the NRP "Sustainable Water Management" and in the NRP
"Smart Materials" 16 and 21 projects respectively were approved and the research work
commenced. The NRP "Stem Cells and Regenerative Medicine" has likewise begun, albeit with a small budget for the evaluation. For the three further NRPs of the evaluation round of 2007-2008, the research phase will begin during 2010.

The gender balance in the ongoing programmes has barely changed (women $20 \%$, men $80 \%$ ).

## 6. National Centres of Competence in Research (NCCR)

With the National Centres of Competence in Research the SNSF promotes long-term research networks in areas of strategic significance for the future of Swiss science, economy and society.

### 6.1 Current NCCRs in overview

Amounts in millions CHF

| Series 2001 | Contribution SNSF $2009^{1}$ | Contribution SNSF for 12 years | Total budget for 12 years | Start | Home institution |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Financial Valuation and Risk Management (FINRISK) | 2.3 | 28.2 | 50.4 | 2001 | University of Zurich |
| Computer Aided and Image Guided Medical Interventions (CO-ME) | 5.3 | 42.7 | 111.3 | 2001 | ETH Zurich |
| Frontiers in Genetics | 3.5 | 43.0 | 106.9 | 2001 | University of Geneva |
| Interactive Multimodal Information Management (IM2) | 4.5 | 32.8 | 80.3 | 2002 | Idiap, Martigny |
| Climate | 1.8 | 26.6 | 122.5 | 2001 | University of Berne |
| Materials with Novel Electronic Properties (MaNEP) | 5.3 | 49.6 | 198.2 | 2001 | University of Geneva |
| Mobile Information and Communication Systems (MICS) | 3.7 | 37.5 | 98.3 | 2001 | ETH Lausanne |
| Molecular Oncology | 3.4 | 43.6 | 115.2 | 2001 | ETH Lausanne |
| Nanoscale Science | 5.1 | 49.3 | 179.2 | 2001 | University of Basel |
| North-South | 3.2 | 36.4 | 106.2 | 2001 | University of Berne |
| Neural Plasticity and Repair (NEURO) | 4.7 | 42.7 | 228.2 | 2001 | University of Zurich |
| Quantum Photonics | 4.5 | 44.8 | 106.2 | 2001 | ETH Lausanne |
| Molecular Life Sciences | 3.6 | 36.7 | 92.9 | 2001 | University of Zurich |
| Plant Survival | 2.6 | 33.4 | 79.5 | 2001 | University of Neuchâtel |
| Total | 53.5 | 547.1 | 1,675.3 |  |  |
| Series 2005 | Contribution SNSF $2009^{1}$ | Contribution SNSF for 8 years | Total budget for 8 years | Start | Home institution |
| Affective Sciences - Emotion in Individual Behaviour and Social Processes | 3.8 | 20.0 | 46.2 | 2005 | University of Geneva |
| Democracy - Challenges to Democracy in the $21{ }^{\text {st }}$ Century | 2.8 | 14.6 | 31.0 | 2005 | University of Zurich |
| Iconic Criticism - Power and Importance of Pictures | 2.8 | 14.6 | 34.4 | 2005 | University of Basel |
| Mediality - Historical Perspectives | 2.2 | 11.7 | 17.2 | 2005 | University of Zurich |
| SESAM - Swiss Etiological Study of Adjustment and Mental Health ${ }^{2}$ | 1.2 | 9.9 | 17.8 | 2005 | University of Basel |
| International Trade Regulation - From Fragmentation to Coherence | 3.6 | 19.8 | 24.5 | 2005 | University of Berne |
| Total | 16.4 | 90.6 | 171.1 |  |  |
|  |  |  |  |  |  |
| All NCCRs | 69.9 | 637.7 | 1,846.4 |  |  |

[^3]
[^0]:    ${ }^{1}$ Special funding included:
    R'Equip ( 21 grants, 5.0 million CHF), MD-PhD ( 7 grants; 1.2 million CHF), SCORE/PROSPER (4 grants; 3.0 million CHF), ERA-NET EuroNanoMed ( 2 grants; 0.8 million CHF), EDCTP ( 1 grant; 0.1 million CHF), EUROCORES ( 6 grants;
    2.6 million CHF), Cohort Studies (1 grant; 3.6 million CHF), Scientific Conferences ( 26 grants; 0.2 million CHF)

[^1]:    1 Incl. extensions

[^2]:    2 Ratio of the number of applications approved to the number of applications submitted

[^3]:    1 Also contains contributions for management, knowledge and technology transfer, promotion of young scientists, etc.
    2 The NCCR SESAM has a duration of 5 years

