The German Research Foundation (DFG) and Funding Programs for International Collaboration

Eva-Maria Streier (DFG Office New York)
Sebastian Granderath (Div. Of Research Careers)
Max Voegler (DFG Office Washington)
• German Science Landscape
• Who We Are and What We Do
• Programs and International Collaboration
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• Programs and International Collaboration
The German Research Landscape
Facts and Figures

- approx. 750 publicly funded research institutions, about 100 research networks and clusters
- 549,000 staff in Research and Development, approx. 320,000 scientists and researchers
- bilateral, European and multilateral scientific cooperation agreements (STC) with more than 40 countries („WTZ-Abkommen“/ Agreements on scientific and technical cooperation)
- Gross Domestic Expenditure on Research and Development: 69.9 billion euro (in 2010) = 2.9 % of GDP
Higher Education Institutions

Institutions of Higher Education
- 108 universities
- 210 universities of applied sciences
- 6 colleges of education
- 16 colleges of theology
- 52 colleges of art
- 29 colleges of public administration

Features of German universities
- Unity of research and teaching
- Broad range of subjects
- Theoretical orientation of research
# The German Research Landscape
## Alliance of German Science Organizations

<table>
<thead>
<tr>
<th>Organization</th>
<th>Budget</th>
<th>Mission</th>
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<tbody>
<tr>
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<td>German Academic Exchange Service</td>
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The German Research Landscape
Research Performing Organizations

Source: Federal Report on Research and Innovation 2010
• German Science Landscape
• **Who We Are and What We Do**
• Programs and International Collaboration
The DFG
– Who we are and what we do

- DFG serves all branches of science and the humanities by funding research projects at research universities and other publicly funded research institutions in Germany
- A self-governing body of science and research
- Member organization (universities, academies, research organizations)
- Budget in 2013: approx. 2.7 bil. € (3.5 bil. $) of direct research funding
DFG Profile
Funding in 2009-2012, by scientific discipline (in Mio € and %)

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DFG Profile
Funding in 2012, by program (in Mio € and %)

- Individual Grants Program: 922,4 (34,5%)
- Priority Programs: 203,2 (7,6%)
- Research Units: 181,9 (6,8%)
- Research Training Groups: 152,5 (5,7%)
- Collaborative Research Centers: 551,1 (20,6%)
- Research Centers: 41,1 (1,5%)
- Excellence Initiative: 404,3 (15,1%)
- Infrastructure Funding: 167,7 (6,2%)
- Prices, other: 52,8 (2.0%)
The DFG

- **funds all areas of science and humanities** and fosters cooperation among researchers
- Special emphasis on the **training of doctoral students** and **early career researchers**
- promotes **equal treatment** of men and women
- provides scientific advice to federal and state **parliaments and agencies**
- promotes close ties between research and **industry** as well as with **researchers abroad**.
How Does the DFG Fund Research Projects?

Funding instruments depend on who is targeted

**Individual persons** apply for funding in the *individual grants program*:

- research grants enable individuals to conduct research projects with clearly defined topics and duration,
- **no predetermined fields, programs or deadlines**

**Research networks** apply for funding of *coordinated programs*:

- coordinated programs promote cooperation and **structural innovation**,
- in **areas of current relevance** and by concentrating scientific potential at a university!
Amount of research funding awarded by program for 2011 (in €m and %)

- Individual grants programme: 955 (35.2%)
- Collaborative Research Centres: 561 (20.7%)
- Priority Programmes: 201 (7.4%)
- Research Units: 175 (6.5%)
- Research Training Groups: 144 (5.3%)
- Research Centres: 42 (1.5%)
- Prizes, other: 48 (1.8%)
- Infrastructure funding: 180 (6.7%)
- Excellence Initiative: 407 (15.0%)
Amount of Research Funding* Awarded by Scientific Discipline for Each Calendar Year 2008 to 2011 (in €m and %)

* Funding amounts refer to both new and ongoing projects in the individual grants and coordinated programs that receive funding in the year shown.
the aim is to establish a university landscape that is similar to the Alps:

to promote the excellent, to foster diversity and to link university and non-university research and graduate education
launched in 2005 to promote top-level research in Germany

coordinated by the DFG and the German Council of Science and Humanities

funding awarded according to the highest standards of research quality (on the basis of peer review)

is financed jointly by the German federal government (75%) and the states (25%)

two Phases:

First phase 2006 – 2012 (1.9 Billion €)

Second Phase from 2012 – 2017 (2.7 Billion €)
Excellence Initiative:
Funding lines

Graduate Schools
Highest level research training
- 45 Graduate Schools
- approx. 1.6 million € p.a. each

Clusters of Excellence
outstanding research
- 43 Clusters
- approx. 6.3 million € p.a. each

Institutional Strategy for Top-Level University Research
Increase international competitive ability of the entire university
- 11 Institutional Strategies
- approx. 12.5 million € p.a. each
Where is the Excellence Initiative active?
Throughout Germany

~ 6,200 new positions

EXC und GSC
~ 3,600 doctoral postions
~ 700 position for postdocs
~ 270 junior professorships
~ 390 senior professorships
~ 230 other academic staff

[October 2011]

Institutional Strategies
~ 850 positions for early career researchers
  (doctoral level to group leader)
~ 145 junior & senior professorships

[February 2009]

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Location, Date
Excellence Initiative: Cooperation outside Academia
(Graduate Schools/Excellence Clusters)

<table>
<thead>
<tr>
<th></th>
<th>Graduate Schools (39)</th>
<th>Excellence Clusters (37)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Research Performing Organizations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Planck Institutes</td>
<td>20</td>
<td>51%</td>
</tr>
<tr>
<td>Leibniz Institutes</td>
<td>15</td>
<td>38%</td>
</tr>
<tr>
<td>Helmholtz Institutes</td>
<td>15</td>
<td>38%</td>
</tr>
<tr>
<td>Fraunhofer Institutes</td>
<td>7</td>
<td>18%</td>
</tr>
<tr>
<td>Others</td>
<td>25</td>
<td>64%</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Businesses</td>
<td>18</td>
<td>46%</td>
</tr>
<tr>
<td>SME</td>
<td>12</td>
<td>31%</td>
</tr>
<tr>
<td>Size Unknown</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Others (Museums, schools, etc.)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>44%</td>
</tr>
</tbody>
</table>

• German Science Landscape
• Who We Are and What We Do
• Programs and International Collaboration
The DFG Funding Chain

Postdoc Stage

- Doctorate
- Postdoc Period
- Achievement of eligibility for tenure
- Preparation for scientific mgmt. position
- Professorship or scientific mgmt. position
The DFG Funding Chain

Postdoc Stage

- Doctorate
- Postdoc Period
- Achievement of eligibility for tenure
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- Professorship or scientific mgmt. position

Eligible to apply

... several thousand positions for early-career researchers in DFG funded projects

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26 Location, Date
Where Can I Find Relevant Projects and Institutions for my Field?

- **Research Explorer** (interactive map of German research landscape)
- **GEPRIS** (online database on current DFG-funded projects)
The DFG Funding Chain

Postdoc Stage

Doctorate → Postdoc Period → Achievement of eligibility for tenure → Preparation for scientific mgmt. position → Professorship or scientific mgmt. position

Eligible to apply
### Postdoc Fellowships and Positions

<table>
<thead>
<tr>
<th>Application Requirements</th>
<th>DFG – Temporary PI Position</th>
<th>DAAD – Fellowships (with AICGS, Leo Baeck, Roche Diagnostics, DLR, and Leibniz)</th>
<th>Helmholtz Postdoc Program</th>
<th>AvH – Humboldt Research Fellowship</th>
<th>EU Commission – Incoming Fellowship</th>
<th>VW Foundation–Freigeist Fellowship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application Requirements</strong></td>
<td>PhD</td>
<td>Depends on program</td>
<td>&lt; 1 year since PhD</td>
<td>&lt; 4 years since PhD</td>
<td>PhD or &gt; 4 years research experience</td>
<td>&lt; 5 yrs. since PhD</td>
</tr>
<tr>
<td><strong>Deadlines</strong></td>
<td>anytime</td>
<td>Depends on program</td>
<td>1 call per year in the spring through the Helmholtz Centres</td>
<td>anytime</td>
<td>August 14, 2013</td>
<td>June 15, 2013</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>348</td>
<td>Depends on program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Duration (yrs.)</strong></td>
<td>3</td>
<td>Depends on program</td>
<td>2-3</td>
<td>6 months to 2 years</td>
<td>1-2</td>
<td>&lt; 5</td>
</tr>
</tbody>
</table>

- **Link**
- **Title / Max Voegler, Eva-Maria Streier, Sebastian Granderath**
- **Location, Date**
- **DFG**

Null
The DFG Funding Chain

Postdoc Stage

1. **Doctorate**
2. **Postdoc Period**
   - Achievement of eligibility for tenure
3. **Preparation for scientific mgmt. position**
4. **Professorship or scientific mgmt. position**

*Eligible to apply*
Junior Research Group Leader Positions

DFG:
- Emmy Noether

AvH: Sofia Kovalevskaja-Award

EU Commission:
- ERC Starting Grant

Max Planck Society
- MPG Research Group

Volkswagen Foundation
- Lichtenberg Professorship

Fraunhofer Attract

Helmholtz:
- Junior Research Group

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## Programs for Junior Research Group Leaders

<table>
<thead>
<tr>
<th>Application Requirements</th>
<th>DFG – Emmy Noether Program</th>
<th>MPG-Research Group</th>
<th>Helmholtz-Young Investigators Group</th>
<th>Fraunhofer Attract</th>
<th>ERC Starting Grant</th>
<th>AvH – Sofia Kovalevskaja-Award</th>
<th>VW Foundation-Lichtenberg-Professorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4 yrs. since PhD; prior research experience in 2 countries</td>
<td>2-6 yrs. since PhD</td>
<td>2-7 yrs. since PhD; (7-12 yrs for consolidators)</td>
<td>&lt; 6 yrs. since PhD;</td>
<td>&lt; 4 yrs. since PhD for assistant prof. (W1); &lt; 7 yrs. for associate prof. (W2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deadlines</td>
<td>anytime</td>
<td>Call for proposals in autumn and by MPI when available</td>
<td>3-step procedure, call at the beginning of each year (no call in 2014)</td>
<td>2 calls per year</td>
<td>1 call per year</td>
<td>Every 2 years – Deadline of next call: July 31, 2013</td>
<td>Deadline of next call: June 1, 2014</td>
</tr>
<tr>
<td>Number</td>
<td>Ca. 50-60/a</td>
<td>Ca. 100 running</td>
<td>15-20/a</td>
<td>ca. 30 running</td>
<td>80 (2012)</td>
<td>8 per call</td>
<td>Max. 10/a (in the last four yrs ~3 each year)</td>
</tr>
<tr>
<td>Duration (yrs.)</td>
<td>5</td>
<td>5 (+ extension)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>Up to 8 (decreasing)</td>
</tr>
</tbody>
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Emmy Noether Program
Fast track to a professorship

► Who? Very well qualified Postdocs (2-4 yrs. after PhD), at least 1 yr. research abroad

► Where? At a German research institute (host becomes employer)

► How long? 5 years

► How much? Salaried position (starting at $70,000 p.a.), Funding for
  ● consumables,
  ● personnel,
  ● travel costs etc.

► How to apply? To the DFG

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All funding programs include funding options for international cooperation (travel, short-term and long-term visiting fellows, workshops)

Researchers from all countries can be employed in DFG projects

Researchers from abroad can apply for a project in Germany (example: Emmy Noether Program, Temporary Position)

Fellowships for German postdocs to do research abroad

Joint project funding with partner organisations (example: International Research Training Groups)

International peer review
How Does the DFG Fund International Cooperation?
Modul: Mercator Fellows

Mercator Fellows are supposed to

► Strengthen research (and teaching) in Germany
► Contribute to the objective of the research project
► Support early-career scientists

This module is available within the Individual Research Grant Program and for coordinated programs.

Researchers can apply (through the German host institution) for funding for a research stay of 3 to 12 months (may be divided into 3-month blocks).
How Does the DFG Fund International Cooperation?
Program: Initiation of International Cooperation

Objective
To support the initiation of international collaboration with the modules „Bilateral Workshops“ , „Trips Abroad“ and „Guest Visits“

Type and Extent of Funding
The modules can be combined

► Trips abroad of up to three months or research stays at partner institutions. Researchers from doctoral candidates to professors may take advantage of these;

► Joint workshops.

Funding is available for a maximum of 1 year. The program relies on matching funds.
<table>
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<th>Advantages for the scientists</th>
<th>Challenges for the funding agencies</th>
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<tr>
<td>Free choice of Co-PI’s worldwide</td>
<td>Complementary funding:</td>
</tr>
<tr>
<td>Access to resources</td>
<td>Identify common goals and funding principles</td>
</tr>
<tr>
<td>International career options</td>
<td>Create flexible ways of co-funding under the umbrella of the respective funding programs</td>
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<tr>
<td>Broader knowledge + Personal skills</td>
<td>Parallelize the funding periods</td>
</tr>
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➢ „Customized“ bi- (and tri-)lateral approaches
How Does the DFG Fund International Cooperation?
International Research Training Groups (IRTG)

IRTGs provide

- **Funding for international research training** at centers of scientific excellence
- **Structured** doctoral program
- **Joint supervision** and exchange program for doctoral students

Faculty members at German universities and their counterparts abroad apply jointly. The foreign partners are expected to acquire complementary funding from their respective source(s).
How Does the DFG Fund International Cooperation?
International Research Training Groups (IRTG)

- Common research interest
- Complementary expertise
- Cohesive joint research program

- Exchange of doctoral researchers
- Exchange of faculty members
- Joint supervision
- Joint publications
- Joint degree (ideally…)
- Joint qualification program

Added value for doctoral researchers and faculty
Internationally trained next generation of researchers
Scientific progress through knowledge transfer
International Research Training Groups
Global Diversity

► No earmarked funds
► No priorities for disciplines or countries
► Same evaluation procedure
► Driven by demand!

► 47 IRTG in 224 funded programs
► Partners in 21 countries
► long-distance-IRTGs increasingly attractive

irtg by partner country

n=47;

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42 Location, Date
Collaborative Research Centers (CRC): General characteristics

- The program „Sonderforschungsbereiche - SFB“ (Collaborative Research Centers, CRC) was established in 1968.

- **Goals:**
  
  1. Establishing temporary centers of excellence, to enable ambitious and extensive research on an innovative subject at an internationally competitive level
     - 3 funding periods of 4 years
     - Maximum duration of funding: 12 years
     - Critical mass of 12-20 research groups
  
  2. Generating structural effects within the universities by creating core research areas
     - Eligibility: German universities can apply

More than 45 Years!
CRC:
Some figures and basic information

- **Budget for all centers:** about € 588 million in 2013
  = about $\frac{1}{5}$ of total annual budget of DFG

- **Number of currently funded centers:** 232

- **Average budget per center:** about € 2.4 million per year (excl. indirect costs)

- **Type of funding:** salaries for staff, scientific instrumentation, consumables, travel, publications, conferences, visiting researchers, plus 20% overhead

- **Core support:** Funding of basic costs by universities and participating research institutes is required
CRC: International Cooperation

General: People
- Fellowships/positions for doctoral researchers and Postdocs
- Travel funds for doctoral researchers and Postdocs
- Visiting Scientists
- Mercator visiting professorship (up to 2 years)
- Sabbaticals for German PI’s

Resources
- Symposia and conferences

Long-term international collaboration with well defined structures:
- Center-to-center collaboration
- International researchers as project leaders/subprojects as part of the CRC
- Non-German university as location of a Transregional CRC

31 out of 232 CRC (= 13%)
Where can I find relevant projects and institutions for my field?

- **Research Explorer** (interactive map of German research landscape)
- **GEPRIS** (online database on current DFG-funded projects)
- **Funding Atlas 2012** (contains key data on publically funded research in Germany)
DFG Offices
Contact Information

DFG Office North America NY
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New York, NY 10017, USA
Tel. +1 212 339-8300
Fax: +1 212 339-7138
northamerica@dfg.de

Closest Subway Stations:
Lexington Avenue/53rd (E and M Trains),
Lexington Avenue/51st (6 Train)

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Washington, DC 20006, USA
Tel. +1 202 785 - 4208
Fax: +1 202 785 - 4410
northamerica@dfg.de

Closest Metro Stations:
Farragut West (Blue/Orange Line),
Farragut North (Red Line)

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Kennedyallee 40
53175 Bonn, Germany
Tel. +49 228 885 2388

Dr. Max Voegler,
Director Washington Office

Dr. Eva-Maria Streier,
Director New York Office

Dr. Sebastian Granderath,
Program Director,
International Research Training Groups
Thank you for your attention

For more information

- on the DFG: www.dfg.de/en/
- on DFG-funded projects: www.dfg.de/gepris/
- on over 17,000 German research institutes: www.dfg.de/research_explorer/