Research in Germany: Career Opportunities for International Students and Scientists

February 12, 2015
This Session

• Overview:
  – Why research in Germany?
  – Funding Organizations in Germany
  – Host institutions

• By Career Stage: Scholarships and Funding
  – Hanni Geist, DAAD
  – Max Vögler, DFG

• EU Funding: Consulting for Germany
  – Sonja Ochsenfeld-Repp, Kowi

• An example:
  – Prof. Gerdi Weidner, San Francisco State University
Why Research in Germany?

- After the US, China and Japan, Germany is the 4th largest performer of R&D in the world
- We spend 2.98% of GDP on R&D in 2013, upward trend since 2007
- The government’s budget for education and research doubled in the last 10 years

Domestic R&D expenditure:

- Ca. $ 85 Billion
- 55.8%
- 29.3%
- 7.3%
- 3.4%
- 3.8%
- 0.3%

2/3 industry
1/3 public

Source: OECD Main Science & Technology Indicators Database, Stifterverband für die Deutsche Wissenschaft
### Scientific Excellence

**Absolute number of particularly scientifically influential publications (top 1%, 2000-2010)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Harvard University</td>
<td>4721</td>
</tr>
<tr>
<td>2.</td>
<td>Max Planck Society</td>
<td>2322</td>
</tr>
<tr>
<td>3.</td>
<td>Stanford University</td>
<td>2173</td>
</tr>
<tr>
<td>4.</td>
<td>UC Berkeley</td>
<td>1977</td>
</tr>
<tr>
<td>5.</td>
<td>University of Washington</td>
<td>1971</td>
</tr>
<tr>
<td>6.</td>
<td>Johns Hopkins University</td>
<td>1888</td>
</tr>
<tr>
<td>7.</td>
<td>MIT</td>
<td>1837</td>
</tr>
<tr>
<td>8.</td>
<td>UCLA</td>
<td>1811</td>
</tr>
<tr>
<td>9.</td>
<td>University of Michigan</td>
<td>1631</td>
</tr>
<tr>
<td>10.</td>
<td>University of Oxford</td>
<td>1512</td>
</tr>
</tbody>
</table>

Source: ISI – Essential Science Indicators.
Access to leading research companies

**Chemical Industry**
- BASF
- Continental

**Electrical and Mechanical Engineering**
- Siemens
- BOSCH

**Pharmaceutical Industry**
- Bayer
- Boehringer Ingelheim

**Vehicle construction**
- Daimler
- Volkswagen
- BMW

**Information Technology**
- SAP

Source: F&E Datenreport 2013, Stifterverband der deutschen Wissenschaft
Opportunities in the Humanities and Social Sciences

- About 16% of public research funding flows to the Humanities and Social Sciences in Germany (about 5% in the US)
- Public scholarship opportunities are typically open to applicants from the Humanities and Social Sciences
- Success rates are at approx. 30% and are comparable across different fields

Success rate is the ratio of the number of successful applications to the number of received applications in 2013 made to the German Research Foundation (new applications only); Source: German Research Foundation
Funding Organizations in Germany

- Many different sources for funding:
  - Funding organizations of the German federal government
  - Non-university research organizations
  - EU science funding program
  - Non-profit organizations
  - Industry
Host Institutions: Institutions of Higher Education

- Almost 400 universities and universities of applied sciences
- Around 12% international students
- 18,000 international doctoral students
- 26,000 foreign academics working in German higher education

After the US and the UK, Germany is the world’s third most attractive research and higher education nation...

...and the most attractive non-english speaking destination.
Host Institutions:
Non-University Research Institutions

• Max Planck Society
  83 institutes, 17000 staff, 1.6 billion EUR

• Helmholtz Association of National Research Centers
  17 centers, 31000 staff, 3.1 billion EUR

• Leibniz Association
  89 institutes, 17500 staff, 1.5 billion EUR

• Fraunhofer Society
  67 institutes, 23000 staff, 1.7 billion EUR
Hosts outside academia: Industrial Research

- Other
- Private R&D
- IT
- Chemical Industry
- Pharmaceutical Industry
- Mechanical Engineering
- Electrical Engineering
- Vehicle Construction

Source: F&E Datenreport 2012, Stifterverband der deutschen Wissenschaft
Federal Funding Organizations

- **German Academic Exchange Service**
  Hanni Geist, Director San Francisco Office

- **German Research Foundation**
  Max Vögler, Director Washington D.C. Office

- **Alexander von Humboldt Foundation**
  Max Vögler
German national agency for international academic cooperation and exchange

DAAD provides:

- Scholarships and grants
- Information and counseling about studying & research in Germany

Facts & Figures:

- 70 Regional Offices and Information Centers worldwide
- Annual budget: ~ 407.4 m € / US $ 550.6 m in 2012
- More than 100,000 individuals supported annually: In 2013, 2,087 from North America (330 Canadians) / 5,339 to North America (804 to Canada)
<table>
<thead>
<tr>
<th>Application Requirements</th>
<th>Undergraduate Scholarship</th>
<th>Intensive Language Course Grant</th>
<th>RISE – Research Internship in Science and Engineering</th>
<th>Summer Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sophomore or junior at US/Canadian university</td>
<td>Full-time student, 3 semesters German</td>
<td>2 years undergraduate studies completed Majoring in science or engineering field</td>
<td>Sophomore 4 semesters German</td>
</tr>
<tr>
<td>Deadlines</td>
<td>January 31</td>
<td>December 15</td>
<td>January 15</td>
<td>December 15</td>
</tr>
<tr>
<td>Number</td>
<td>~ 60</td>
<td>50</td>
<td>~ 300</td>
<td>50</td>
</tr>
<tr>
<td>Duration</td>
<td>1 or 2 semesters</td>
<td>8 weeks</td>
<td>8-12 weeks</td>
<td>3-4 weeks</td>
</tr>
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<td></td>
<td></td>
<td>Details at <a href="http://www.daad.org">www.daad.org</a></td>
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</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.daad.de/rise/en/">www.daad.de/rise/en/</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
German Academic Exchange Service  
Support for Graduates

<table>
<thead>
<tr>
<th>Application Requirements</th>
<th>StudyScholarship</th>
<th>Intensive Language Course Grant</th>
<th>RISE pro – Research Internship in Science and Engineering</th>
</tr>
</thead>
</table>
|                          | -Seniors at US/Canadian university  
-US/Canadian graduates < 6 after graduation | Full-time student, 3 semesters German | -Recent BA graduate  
-Graduate students majoring in science or engineering field |
| Deadlines                | Early November   | December 15                     | January 31                                             |
| Number                   | 60               | 50                              | ~ 70                                                  |
| Duration                 | 1 or 2 years  
At university or independent study | 8 weeks                          | 6-12 weeks                                            |
## Doctorate/Postdoc Period

<table>
<thead>
<tr>
<th>Program</th>
<th>Requirements</th>
<th>Deadlines</th>
<th>Number</th>
<th>Duration</th>
<th>Details</th>
</tr>
</thead>
</table>
| Research Grant                | - ABD status  
- Applicants who pursue PhD in Germany                                       | Early November & mid-May  | varies | 1 month – 3 years      | www.daad.org |
| RISE pro – Research Internship in Science and Engineering                   | - Graduate students majoring in science or engineering field                  | January 31                | ~ 70   | 6-12 weeks             | www.daad.de/riise-pro/en/ |

## Faculty & Researchers

<table>
<thead>
<tr>
<th>Program</th>
<th>Requirements</th>
<th>Deadlines</th>
<th>Number</th>
<th>Duration</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Visit Grant</td>
<td>Scholars from US and Canadian institutions</td>
<td>Mid-October &amp; mid-May</td>
<td>varies</td>
<td>1-3 months</td>
<td><a href="http://www.daad.org">www.daad.org</a></td>
</tr>
<tr>
<td>Visiting Professorship Program</td>
<td>Scholars from US and Canadian institutions</td>
<td>Early November</td>
<td>varies</td>
<td>1 – 4 semesters</td>
<td><a href="http://www.daad.org">www.daad.org</a></td>
</tr>
</tbody>
</table>
| Intensive Language Course Grant| - full-time graduate student  
- Scholars from US and Canadian institutions                                 | December 15/January 31    | 50     | 4-8 weeks              | www.daad.org |
The DFG
– Who We Are and What We Do

Who we are:

— **Central public funding organization** for basic research in Germany

— A **self-governing body** of science and research

— **Member organization** (universities, academies, research organizations)

— The **budget** in 2012: approx. **€ 2.5 billion in direct research funding**, provided primarily by the federal government and the 16 German Länder
What we do:

— serve all branches of science and the humanities by funding research projects and facilitating cooperation among researchers

— support the education and advancement of young scientific researchers

— promote equality between men and women

— advise parliaments and public authorities on scientific matters

— foster relations between research and the private sector and between scientists and academics at home and abroad
Career Stages in Germany
Tenure track not the traditional career model

Doctorate → Postdoc Period → Achievement of eligibility for tenure → Professorship or Scientific Mgmt. Position
Career Stages in Germany
When are you eligible to submit a DFG proposal?

**Doctorate** → **Postdoc Period** → **Achievement of eligibility for tenure** → **Professorship or Scientific Mgmt. Position**

*Eligible to apply*
Career Stages in Germany
Where can I find DFG-funded positions in projects?

Doctorate → Postdoc Period → Achievement of eligibility for tenure → Professorship or Scientific Mgmt. Position

*Eligible to apply*

... several thousand positions for early-career researchers in DFG funded projects
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)
Where can I find relevant projects and institutions for my field?

- A sample of currently funded multiple-PI projects:
  - TRR 136 (Bremen; Aachen; Stillwater):
    "Function oriented manufacturing based on characteristic process signatures"
    Funding start 2014.
  - IRTG 1705 (Berlin; New York City; Toronto):
    "The world in the city: Metropolitanism and Globalization from the 19th Century to the Present"
    Funding start 2012.
  - SPP 1685 (Freiburg):
    "Ecosystem Nutrition: Forest Strategies for limited Phosphorus Resources"
    Funding start 2013.
The DFG Funding Chain
Postdoc Stage

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

Eligible to apply
Postdoctoral Fellowships and Positions

- EU Commission: Incoming Fellowship
- DFG: Temporary PI Position
- Helmholtz Postdoc Program
- Volkswagen Foundation: Freigeist Fellowship
- Humboldt Research Fellowship
- DAAD Fellowships
- Others...
## 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/September</td>
<td>Mid-October</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](#) With AICGS, Leo Baeck, Roche Diagnostics, DLR, and Leibniz [Link](#) [Link](#) [Link](#) [Link](#)
Temporary Position as Primary Investigator
Select your own research environment

- **Who?** Postdocs
- **Where?** At a German research institute (*host* becomes employer)
- **How long?** Max. 3 years
- **How much?** Salaried position (approx. $52,000 p.a.)

Funding for
- consumables
- personnel
- travel costs etc.

**How to apply?** To the DFG

You need a host institution and a good project idea
The DFG Funding Chain
Appropriate funding options at each career stage

Eligible to apply
Junior Group Leader Positions

- AvH: Sofia Kovalevskaja-Award
- DFG: Emmy Noether
- EU Commission: ERC Starting Grant
- Fraunhofer Attract
- Max Planck Society MPG Research Group
- Helmholtz: Junior Research Group
- Volkswagen Foundation Lichtenberg Professorship
## Programs for Junior Research Group Leaders

<table>
<thead>
<tr>
<th></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><strong>Application Requirements</strong></td>
<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>
</tr>
<tr>
<td><strong>Deadlines</strong></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</td>
<td>2 calls per year</td>
<td>1 call per year</td>
<td>Every 2 years – Next call expected in spring 2015</td>
<td>June 1</td>
</tr>
<tr>
<td><strong>Number</strong></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><strong>Duration (yrs.)</strong></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>
</table>

[Link](#) [Link](#) [Link](#) [Link](#) [Link](#) [Link](#) [Link](#)
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 (approx. $63,000 p.a.), Funding for
  - consumables,
  - personnel,
  - travel costs etc.
- **How to apply?** To the DFG

You need a very good track record, international experience in more than one country and an excellent project idea
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.
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: 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?
Program: International Research Training Groups (IRTG)

- No earmarked funds
- No priorities for disciplines or countries
- Same evaluation procedure
- Driven by demand!
- **IGK = 42 IRTG** of 207 funded programs
- Partners in **24** countries
- *long-distance*-IRTGs increasingly attractive
European Funding Opportunities
Services provided in Germany

National Contact Points

Liaison Officers at
- universities
- research institutions

Regional consulting

European Liaison Office of the German Research Organizations

→ www.nks-erc.de

→ www.kowi.de/en
European Funding Opportunities
Services provided in Germany

- Information, consulting and training for researchers and administrators (support towards participation in the Horizon 2020 Programme for Research and Innovation)
- KoWi services are free of charge

"Association for the Promotion of European and International Cooperation in Science e.V."

Service platform of 10 German research organizations
- financed by the German Research Foundation (DFG)
European Funding Opportunities
Services provided in Germany

- **Marie Skłodowska-Curie Actions**
  - Individual *consulting* and *supervision* for applicants
  - Information *seminars* and *workshops* for applicants at German universities and research organisations
  - Consulting on financial and project management

- **European Research Council**
  - *Interview trainings* for Starting and Consolidator Grants and on-site support in Brussels
  - National Contact Point ERC
European Funding Opportunities
Services provided in Germany

Stay in touch with us!

@KoWi_EU
News and facts about EU research funding
⇒ www.twitter.com/KoWi_EU

AiD newsletter
Detailed information about EU research funding
⇒ www.kowi.de/newsletter

NCP newsletter
Latest news about the ERC in Germany
⇒ www.eubuero.de/newsletter_en
An Example: Gerdi Weidner

• **Ph.D. 1981:**
  Kansas State University;
  Personality/Social Psychology

• **MS. 1978:**
  Kansas State University;
  Personality/Social Psychology

• **Vordiplom 1976:**
  Justus Liebig Universität, Germany;
  Psychology

gweidner@sfsu.edu

http://biology.sfsu.edu/people/gerdi-weidner-0

http://www.psychologie.uni-heidelberg.de/ae/diff/gender/weidner_home.html
Experience (selected)

• 2010 – present  Research Professor, Biology, San Francisco State University
• 2013 - 2016  Visiting Professor of Psychology, Heidelberg University, Germany (2m/y)
• 2001 – 2009  VP, Director of Research, Prevent. Medicine Research Institute, Sausalito, CA
• 2001 – 2013  Visiting Professor of Psychology, Johannes Gutenberg University, Mainz, Germany (1/2 of academic year)
• 1984 – 2001  Assistant (’84-‘90), Associate (’91-‘98), and Full Professor (‘99) of Psychology (with tenure), State University of New York, Stony Brook
• 1998 – 1999  Sabbatical leave: Visiting Professor, Preventive Medicine, Karolinska Institute, Stockholm, Sweden
• 1995 – 1997  Appointment under the Intergovernmental Personnel Act, National Institutes of Health; NHLBI-DECA; Office of Behavioral and Social Sciences Research
• 1990 – 1991  Sabbatical leave: Visiting Scientist, Karolinska Institute, Stockholm, Sweden
• 1983 – 1984  NIMH-Postdoctoral Research Fellow, Social/Health Psychology, UCLA
• 1982 – 1983  NIH-Postdoctoral Research Fellow, Behavioral Cardiology, Oregon Health Sciences University, Portland, OR
Research Grants Awards (selected)

- 2011 – 2014  German Research Foundation (DFG) - Foreign Collaborator – with H. Spaderna
- 2010 – 2011  Johannes Gutenberg University, Mainz - Research Support Grant for H. Spaderna
- 2006 – 2009  Department of Defense, USA
- 2006 – 2007  German Academic Exchange (DAAD)
- 2005 – 2007  Department of Defense, USA
- 1999 – 2003  National Institutes of Health (NHLBI)
- 1999 – 2001  NATO, co-funded by NIH (Office of Behavioral and Social Sciences Research), the Wellcome Trust, and the Alexander von Humboldt Foundation
- 1993 – 1998  NATO: Collaborative Research Grant - with C.-W. Kohlman
- 1993        Deutscher Akademischer Austauschdienst (DAAD)
- 1985 – 1989  American Heart Association
- 1984 – 1987  New Investigator Research Award (NIH, NHLBI)
Honors (selected)

- 2013 – 2016  **German Research Foundation (DFG):** Guest Professorship, part of the Excellence Initiative, Heidelberg University
- 2012  **Alexander von Humboldt Foundation (AvH):** Invited research visit awarded to AvH prize recipients and accompanying students from US. Gutenberg University, Mainz
- 2010 – 2011  **International Society for Heart and Lung Transplant (ISHLT):** Nursing and Social Sciences Research Award (with H. Spaderna)
- 2006 – 2010  **German Research Foundation (DFG):** Mercator Guest Professor Award. Gutenberg University, Mainz
- 2001  **Alexander von Humboldt Foundation:** Research Prize: Award for lifelong academic accomplishments
- 1998  Elected Fellow: The American Psychological Association – Division Health Psychology
- 1997  Elected Fellow: Society of Behavioral Medicine
- 1976 – 1977  Justus Liebig University, Giessen, Germany: Scholarship for studies in Psychology
Benefits of going to Germany – faculty perspective

• German students are smart, very well-prepared, serious, mature, and very appreciative of the “American way” of teaching (especially in English!)

• Excellent University Resources

• Professional Staff

• Knowledgeable Colleagues

• Great Opportunities for collaborative research and publications (ca. 20% of my publications are co-authored with German students and German colleagues!)
“As an Alexander von Humboldt research scholar at the Johannes Gutenberg University in Mainz, Germany, I had the opportunity to work with Prof. Weidner on the Waiting for a New Heart Study Group. While my stay in Germany was relatively short (3 months funded by the AvH), my involvement in 2 research projects proved my time in Germany to be incredibly successful.” –Kathleen Gali, Ph.D. Candidate at UC Merced, Merced, CA
“I am wholeheartedly grateful to the Alexander von Humboldt Foundation for this enriching opportunity. Being able to study and learn abroad in Germany made a lasting impression on me that since then I have looked for opportunities to return.

When I returned to the U.S. I continued my collaboration with members of the Waiting for a New Heart Study Group and began German language courses.

In 2013 I started a Ph.D. program in Public Health at the University of California, Merced, and was able to fuse what I did in Germany with my training as a doctoral student. I am in the process of securing funding from the DAAD to pursue further research in Germany.”

Contact Information:
Kathleen Gali
Email: Kgali@ucmerced.edu