The Postdoctoral Experience Revisited

„Postdoctoral researchers in the United States are often overworked, poorly paid, and stuck in jobs that don’t advance their careers. And efforts to improve the system have progressed slowly, in part because academics who supervise postdocs have little incentive to push for change.”

Chronicle of Higher Education, December 2014
Restoring the Foundation
The Vital Role of Research in Preserving the American Dream

Federal Basic Research Investment as a Share of GDP

- Basic Research Investment Shortfall ($639 billion cumulative total, 1992–2032)
- Federal Basic Research (actual)
- Historical Competitive Track (mean growth 1975–1992)

Accelerated Growth to Close the Basic Research Shortfall by 2032
Return to Competitive Growth Rate Established 1975–1992
Flat Relative to Economic Growth
Baseline under Discretionary Budget Caps
Research in Germany: International Opportunities for Career and Study

What Can You Expect?

- The German Research Landscape
- Funding schemes of the DAAD
- Funding schemes of the DFG
- Funding schemes of the Alexander von Humboldt Foundation
- EU-funded research in Germany
Who We Are and What We Do

- Since 2006, “Research in Germany” is the central information platform of the Federal Ministry of Education and Research (BMBF) to promote innovation and research in Germany.

- Partners for “Research in Germany”-initiatives in North America are the Alexander von Humboldt Foundation (AvH), the Fraunhofer Gesellschaft (FhG), the German Academic Exchange Service (DAAD), and the German Research Foundation (DFG)
The German Research Landscape

I: Intensive Industrial Research

- Two thirds of the research investments in Germany are spent by the industrial sector
- Numerous industrial research facilities and companies are closely cooperating with universities and other research institutions (networks and clusters)
- The German Federation of Industrial Research Associations (AiF) promotes research and development in all industry sectors
- Industries strong in research: Automobile industry, electrical engineering, chemical industry and mechanical engineering
II: Non-University Research Institutions

- Max Planck Society
  (83 institutes and research centers; staff: 17,000; budget: 1.6 billion €)

- Helmholtz Association of National Research Centers
  (17 research centers; staff: 31,000; budget: 3.1 billion €)

- Leibniz Association
  (89 institutes and research facilities; staff: 17,500; budget: 1.5 billion €)

- Fraunhofer Gesellschaft
  (67 institutes; staff: 23,000; budget: 1.7 billion €)
Locations and Research Areas

Section A (17)
Humanities and Educational Research

Section B (17)
Economics, Social and Spatial Sciences

Section C (24)
Life Sciences

Section D (22)
Mathematics, Natural Sciences and Engineering

Section E (9)
Environmental Research
Working in Networks: Leibniz Research Alliances

- Biodiversity
- Energy Transition
- Education Research
- Healthy Ageing

- Pharmaceutical Agents and Biotechnology
- Historical Authenticity
- Science 2.0
- Sustainable Food Production and Healthy Nutrition

- Crises in a Globalized World
- Nanosafety
- Medical Technology
Fraunhofer-Gesellschaft
Europe’s largest organization for applied research

- 67 research institutes
- More than 23,000 staff
- €2 billion annual research budget totaling.
Fraunhofer Attract
The excellence stipend program of Fraunhofer

Interested in industry-related research, career and leadership

Interested in industry-related research, career and leadership

Creative research idea

With potential for application-oriented development

Suitable Fraunhofer-Institute

Research idea fits perfectly to R&D portfolio of the selected institute

In case of success: €2.5 million funding for 5 years

Mutual Application

Excellent scientist (PhD or Professorship) + Creative research idea + Suitable Fraunhofer-Institute = Mutual Application
Fraunhofer USA, Inc.
20 Years of Transatlantic Innovation Alliance

Fraunhofer USA Headquarters
Since 1994

San José

Digital Media Technologies DMT

Coatings and Laser Applications CCL

Laser Technology CLT

Manufacturing Innovation CMI

Heinrich Hertz Institute (HHI) USA

Sustainable Energy Systems CSE

Energy Innovation CEI

Molecular Biotechnology CMB

Experimental Software Engineering CESE
The German Research Landscape

III: 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

Features of German Universities

- Unity of research and teaching
- Broad range of subjects
- Theoretical orientation of research
The German Research Landscape

III: Institutions of Higher Education

Why Germany?

Alexander Lerch, Assistant Professor for Music Technology, Georgia Institute of Technology

2008: PhD, Technical University Berlin
1996 – 2000: Sound Engineering (Tonmeister) Berlin University of the Arts

German Academic Exchange Service (DAAD)

is the largest funding organization in the world supporting international exchange of students and scholars.

DAAD provides
• Information and counseling about studying & research in Germany
• Scholarships and grants
RISE
(Research Internship in Science and Engineering)
For Undergraduates

- summer internship (2 to 3 months) in the fields of biology, chemistry, physics, earth sciences and engineering
- RISE interns are matched with doctoral students at a German university or research institute
- The working language will be English

Terms of Award: €650/month, plus insurance, travel stipend

Deadline: January 15
RISE professional

For Master or PhD students

- 6-26 week summer placements in industry
  internships with leading German companies
- German requirements depend on the
  nature of the internship
- 2 week intensive language course for participants with little or
  no German

Terms of Award: €750/month for graduate
€1.000/month for PhD students

Deadline: January 15
Study Scholarship

For a full master's degree program at a German university or a year of independent study

Terms of Award:
€ 750/month, plus insurance, travel stipend

Deadline: November 4
Research Grants

For PhD candidates, recent PhDs or for individuals wishing to earn a doctoral degree in Germany

- 1 to 10 months with the possibility of an extension
- Must have a well-defined research project
- Invitation by host institution essential

Terms of Award:
€1,000/month plus insurance and travel stipend

Deadlines: November 4 & May 15

Deutscher Akademischer Austausch Dienst
German Academic Exchange Service
DFG: Temporary Position as Primary Investigator

- Who? Postdocs
- Where? At a German research institute (host becomes employer)
- How long? Max. 3 years
- How much? Salaried position (starting at $64,000 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
Emmy Noether Program

— 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 $75,000; 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
# 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>
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<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 (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><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>
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<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>
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</table>
Funding Your Research in Germany

German Funding Programmes for Scientists and Researchers

Funding Opportunities for International PhD Students, Postdocs, Junior and Senior Researchers
Good to Know Before You Go I

FAQs - Doing a doctorate in Germany
FAQs – Preparing a successful research stay in Germany
Funding Your Research in Germany

The Alexander von Humboldt Foundation

• Supports excellent individual researchers and other professionals from abroad and from Germany

• No quotas for countries or disciplines; selection based solely on applicant’s academic record. Up to 700 fellowships and awards granted annually

• 2012 Budget: approx. 112.5 million EUR. ~97% of support is from the German federal government

• “Exzellenz verbindet” — be part of a worldwide network. Alumni network of over 26,000, including 49 Nobel laureates — 5,000+ of Humboldtians in the United States
# Funding Your Research in Germany

<table>
<thead>
<tr>
<th>Career stages</th>
<th>Academics from abroad</th>
<th>Academics from Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Origin</strong></td>
<td><strong>Academics from abroad</strong></td>
<td><strong>Academics from Germany</strong></td>
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<tr>
<td><strong>Graduates</strong></td>
<td>- German Chancellor Fellowship (for citizens of the US, Russia, China, Brazil and India)</td>
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<td>(up to 12 years after completion of bachelor's)</td>
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<tr>
<td><strong>Postdoctoral researchers</strong></td>
<td>- Humboldt Research Fellowship</td>
<td>- Feodor Lynen Research Fellowship</td>
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<tr>
<td>(up to 4 years after completion of doctorate)</td>
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<tr>
<td><strong>Junior research group leaders</strong></td>
<td>- Sofja Kovalevskaja Award</td>
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<tr>
<td>(up to 6 years after completion of doctorate)</td>
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<tr>
<td><strong>Experienced researchers</strong></td>
<td>- Humboldt Research Fellowship</td>
<td>- Feodor Lynen Research Fellowship</td>
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<td>(up to 12 years after completion of doctorate)</td>
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<tr>
<td>(up to 18 years after completion of doctorate)</td>
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<tr>
<td><strong>Internationally renowned academics</strong></td>
<td>- Humboldt Research Award</td>
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<tr>
<td></td>
<td>- Alexander von Humboldt Professorship</td>
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<tr>
<td></td>
<td>- Friedrich Wilhelm Bessel Research Award</td>
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</tbody>
</table>
Funding Your Research in Germany

Contact the AvH in Germany:
Alexander von Humboldt Foundation
Jean-Paul-Straße 12
D-53173 Bonn (Germany)
Tel: (+49) 0228-833-0
Website: www.humboldt-foundation.de
E-mail: info@avh.de

Contact AFAvH in the US:
American Friends of the Alexander von Humboldt Foundation
1101 17th Street NW, Suite 603
Washington, DC 20036
Tel.: (+1) 202- 783-1907
Website: www.americanfriends-of-avh.org
E-mail: info@americanfriends-of-avh.org
European Funding Opportunities
Consulting in Germany

National Contact Points

Liaison Officers at
- universities
- research institutions

Regional consulting

European Liaison Office of the German Research Organisations

→ www.kowi.de/en

→ www.nks-erc.de
European Funding Opportunities
Consulting in Germany – KoWi

- Information, consulting and training for researchers and administrators (support towards participation in the European Framework Programme for Research and Innovation)

- KoWi services are free of charge

- Service platform of 10 German research organisations
- financed by the German Research Foundation (DFG)

Art 5 Abs. 3 GG

Scientific/academic self-government

One Stop Shop

Service from a single source

INCO

Brussels & Bonn

Information Network EU/Germany

Cooperation worldwide

Research & development

universities & research institutions

"Association for the Promotion of European and International Cooperation in Science e.V."
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
  (in cooperation with the EU-Bureau of the Federal Ministry of Research and Education)
European Funding Opportunities
Consulting in Germany

Overview NCPs in Germany:
→ www.horizont2020.de/beratung-nks.htm

@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
Search for Research Institutes

Online database that gives you access to over 19,000 German university and non-university research institutes:

research-explorer.dfg.de
Thank you very much for your attention!