Career track options in Germany
Steps towards a successful scientific career
Content

— Research and Career Opportunities in Cell Biology in Germany
— Funding Programs to Support Your Research Career
— A Road to Scientific Independence
— How to Write a Good Grant
— Tips – Information Material
Research and Career Opportunities in Germany

Frauke Melchior

1981-1990  Studies of Chemistry, Biochemistry  
            University Marburg, Germany,
1990-1992  Postdoc  
            MPI for Biophysical Chemistry, Göttingen
1992-1998  Postdoc  
            Scripps Research Institute, La Jolla, USA
1998-2004  Junior group leader  
            MPI for Biochemistry, Martinsried
2005-2008  Full Professor  
            University Göttingen
since 2009  Full Professor  
            University Heidelberg
Research and Career Opportunities in Germany

Focus on Molecular Cell Biology
Different Players with complementary missions

— Higher Education Institutions (106 research universities)
— Max Planck Society (82 institutes and research facilities)
— Helmholtz Association (18 research centers)
— Leibniz Association (86 institutes and research facilities)
— Fraunhofer Society (66 institutes)
— EMBL, an European research institute in Heidelberg

Source: BMBF, institutions’ websites (2013)
Research Funding

— Max Planck Institutes, Leibniz Institutes, Helmholtz Institutes and Fraunhofer Institutes: *intramural funding from federal and state governments, some third party funding*

— Universities: *basic funding from state governments, predominantly third party funding*
Research Funding

— German Research Foundation (DFG): *predominantly individual grants but also collaborative grants in all areas of sciences and humanities, anytime.* *Funding rates > 20%*

— Federal Ministry for Research (BMBF): *specific calls*

— European Union: *large collaborative initiatives, but also Postdoc Fellowships*

— European Research Council: *ERC starting and advanced grants*

— Private Foundations: *specific calls or restricted to specific topics*
Collaborative funding fosters interactions beyond institutional boundaries

— thematically focused local research networks (SFB), run up to 12 years

— collaborative training networks, local or with one international partner institution (GRK of IGRK), run up to 9 years

— DFG funded German-wide priority programs (SPP), run up to 6 years

— Excellence Initiative Measure: Clusters of Excellence

— Excellence Initiative Measure: Graduate Schools

PhD typically requires 3-4 years (entry into school after Master)

Benefit: research funding, networking, methods courses, retreats, seminar series, international meetings
The German Research Landscape: Research in cellular and molecular Biology

Source: DFG, Fraunhofer Society, Helmholtz Association, Leibniz Association, Max Planck Society, © DFG 2013
Researchers from all institutions participate in activities such as the Excellence Cluster CellNetworks, the Graduate School HBIGS, several SFBs and Trainingnetworks.
Molecular Cell Biology in Germany

nucleocytoplasmic transport

Berlin

Cologne

Dresden

Freiburg

Göttingen

Heidelberg

Münster

Munich

……...

from structural biology

to organismic studies

links to physics,
chemistry, medicine

pro- and eukaryotes
yeasts, plants, animals

fundamental principles
and/or disease mechanisms

basic and applied science

signal transduction

Ubiquitin and Ubls

Redox regulation

vesicle transport

Cytoskeleton

Mitochondria

Chaperones

Epigenetics

Chromatin

Cell Cycle

ncRNAs

……...
Finding postdoc positions

Option A (start one year prior to anticipated move):
- Find your dream lab via publications, meetings….
- apply with a meaningful letter!
- visit the lab!
- suggest/discuss projects
- write a fellowship application (*details in the next talks*)

Option B (be prepared to move within a few months):
- read job advertisements (e.g. http://www.nature.com/naturejobs/science/), check homepages of SFBs, Clusters …
- apply with a meaningful letter!
- visit the lab!
- take the offered project and position
Independent junior group leader positions

Option A: open calls, internationally advertised

— Similar in status to Assistant Professor

— Typically, but not always, without tenure track

— Funding initially for 5 years, extension (up to 7 or 9 years) requires evaluation

— Generous funding! Package includes salaries for group leader, one student, one Technician, sometimes also one postdoc, running costs and equipment.

— Offered, e.g., by Max-Planck, Helmholtz, EMBL, some University Institutes and Clusters of Excellence.....

Option B: Emmy Noether Program – see next talk
Useful links

— http://www.nature.com/naturejobs/science/
— http://jobs.zeit.de/stellenmarkt/wissenschaft_forschung_39811.html
— http://www.dfg.de/en/research_funding/programmes/
— www.research-in-germany.de (see Jobs & Careers)
— http://gepris.dfg.de
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Funding opportunities for different career stages

Postdoc positions

Junior research groups

Visiting scientists
Funding of Postdoc Positions

- Job openings at Universities
- Job openings at non-university institutions

- **DFG** Research grants incl. own position
- **DAAD** Research grants
- Humboldt Research fellowships for postdoctoral researchers
- EU Marie Curie Fellowships
- EMBO Long-term Fellowships

Watch out for Job Openings

Write a proposal
Funding of Postdoc Positions: DFG

Research Grants

— Carry out your own research project at a German university or research institution

Eligibility: Researchers holding a doctorate

Requirements: host institution but no deadline, most flexible

Funding: Up to 6 years (e.g. 2 x 3); own position/personnel and more
Funding of Postdoc Positions

DAAD Research Grants

— Carry out a short term research project

Eligibility: Early career scientists

Requirements: Invitation by host institution

Funding: up to 10 months; monthly support $1,400 plus additional allowances
Funding of Postdoc Positions: Humboldt Fellowships

— Spend extended periods of research in Germany

Eligibility: Highly qualified foreign academics and scientists

Requirements: Doctorate completed less than 4 years ago; agreement by academic host

Funding: 6 to 24 months; $3,100 per month plus additional allowances; integration into Humboldt network
Funding for Postdoc Positions: Marie Curie Fellowships

— Transnational fellowships for research in Germany/Europe

Eligibility: PhD-degree or at least four years of full-time research experience

Requirements: Mobility -- Researchers shall not have resided or worked in the country of the host institution for more than 12 months in the 3 years immediately prior to the fellowship

Funding: 12 to 24 months; salary plus additional allowances
Funding of Postdoc Positions: EMBO Long-Term Fellowships

Postdoctoral research visits to labs throughout Europe and the world

Eligibility: Researchers holding a doctorate or equivalent; PhD exam not longer than 2 years ago; applicants must have at least one first author publication

Requirements: All fellowships must involve movement between countries; receiving institute or the applicant's nationality must be from one of the EMBO Member States

Funding: Up to 2 years
Funding opportunities for different career stages

- Postdoc positions
- Junior research groups
- Visiting scientists
Funding of Junior groups

— Sofia Kovalevskaja Award

— DFG Emmy Noether Program

— Other potentially relevant Funding Agencies:
Funding of Junior Groups: Fraunhofer Attract

To develop and implement ideas directed towards industrial innovations

Eligibility: Highly qualified researchers with a promising idea to be developed into an industrial application

Requirements: Idea is compatible with scientific and business strategy of host institution (joint application)

Funding: Funding period: 3 + 2 years continuation as self-sustaining Fraunhofer group; € 2.5 million for scientific staff and equipment
Funding of Junior Groups:
Kovalevskaja Award

— Establish your own junior research group in Germany

≡ Eligibility: Successful, top-ranked junior researchers from abroad

☉ Requirements: Doctorate completed less than 6 years ago; high profile, innovative research project

☉ Funding: $ 2.3 million for 5 years; integration into Humboldt network
Funding of Junior Groups: Emmy Noether Program

— Set up your independent research group in Germany

 Ebony: Eligibility: Excellent Postdocs (max. 4 years after PhD / 6 years after MD)

 Red: Requirements: At least 2 years of postdoctoral experience; substantial international research experience

 Sun: Funding: 5 years (evaluation after 3 years); salary as Junior Research Group Leader; personnel, consumables, and more; option to negotiate with 2 or more potential host institutions
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Christian Behrends

2001   Diplom in Biology  
       University of Konstanz, Konstanz

2002-  PhD (Dr. rer. nat.)  
2007   Max Planck Institute of Biochemistry, Martinsried,  
       Ludwig-Maximilian-University, Munich

2007-  Postdoctoral Fellow  
2010   Harvard Medical School, Boston, USA

Since  Emmy Noether Group Leader  
2011   Medical School Goethe University, Frankfurt
A Road to Scientific Independence

Topics:

— How to become a principle investigator (PI)
— How to start a lab
— Opportunities of the Emmy Noether Program
How to become a PI

**Idea**
- Topic
- Method
- Innovative
- Novel
- Interest
- Enthusiasm
- New research line
- Continuation of postdoc work
- Fit your expertise

**Money**
- Funding opportunities
- Proposal requirements
- Write proposal
- Talk to grantees
- Proof reading by senior colleagues

**Position**
- Apply to openings
- Journals (Nature,…)
- Platforms (DHV, academics.de,…)
- Newspaper (Zeit,…)
- Scientific network - Colleagues/Mentors
- Conferences/Seminars
- Blind inquiry
- Create openings
How to become a PI

**Idea**
- Topic
- Innovative
- Novel
- Interest
- Enthusiasm
- New research line
- Continuation of postdoc work
- Fit your expertise

**Money**
- Interview at funding agency
- Talk & Discussion
- Why should you get the money?

**Position**
- Selection process at academic institution
- Talk & Discussion
- Meet colleagues/faculty
- Why this position? What is your added value?
- Relevance of your research approach?
How to become a PI

<table>
<thead>
<tr>
<th>Idea</th>
<th>Topic Method</th>
<th>Innovative Novel</th>
<th>Interest Enthusiasm</th>
<th>New research line</th>
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<tr>
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<td>Continuation of postdoc work</td>
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<td></td>
<td>Fit your expertise</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Money</th>
<th>Grant implementation</th>
<th>Host institute</th>
<th>Starting date</th>
<th>Instruments purchase</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Position</th>
<th>Negotiations</th>
<th>Start-up package</th>
<th>Infrastructure</th>
<th>Perspective</th>
<th>Expectations</th>
<th>Teaching</th>
<th>Administrative support</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Timing</th>
<th>Submitted/accepted paper</th>
<th>Data for proposal/talk</th>
<th>0.5-1 year</th>
</tr>
</thead>
</table>
How to start the lab

General

- Do not panic!
- Rely on your research & lab experience
- Get advice from senior colleagues

Budget

- Defines your framework
- Control spending
- Get help from admin

- Personnel
- Direct cost
- Travel
# How to start the lab

## Infrastructure

<table>
<thead>
<tr>
<th>Lab space</th>
<th>Renovations</th>
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<tbody>
<tr>
<td></td>
<td>Special hardware requirements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Big instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Instruments</td>
<td>From which company</td>
</tr>
<tr>
<td>Consumables</td>
<td>Quotes</td>
</tr>
</tbody>
</table>

**Purchasing/Ordering procedure/policy**

<table>
<thead>
<tr>
<th>What do you want</th>
</tr>
</thead>
<tbody>
<tr>
<td>From which company</td>
</tr>
<tr>
<td>Quotes</td>
</tr>
<tr>
<td>Comparative offers</td>
</tr>
</tbody>
</table>

## Personnel

<table>
<thead>
<tr>
<th>Post opening</th>
<th>Journals (Nature,…)</th>
</tr>
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<tbody>
<tr>
<td>Platforms (Jobvector.de,…))</td>
<td></td>
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<tr>
<td>Conferences &amp; Colleagues</td>
<td></td>
</tr>
</tbody>
</table>

**Selection process**

<table>
<thead>
<tr>
<th>Skype interview</th>
<th>How do you want to select your co-workers?</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site interview</td>
<td>What are you looking for?</td>
</tr>
</tbody>
</table>

**Hiring (firing) procedure/policy**
How to start the lab

Research

- Prioritize & adjust
- Make a global game plan
- Define projects (PhD & Master students)
- Adjust according to your personnel
- Establish collaborations
- Build scientific network/Look for mentors

Lab style

- How do you want to run the lab?
- What kind of boss do you want to be?
- What will be your tasks – bench/office?
- How much time will you have for these tasks?
- How do you want to educate your students?
- How do you want to organize your lab?
  - Lab meeting, Journal clubs, socializing events
  - Distribution of common duties, Stocks/Reagents
  - Equipment responsibility
Opportunities of the Emmy Noether Program

— Prestigious
  – Stringent cut off
  – Flagship funding scheme for starting PIs
  – Habilitation equivalent

— Generous
  – No official funding cap

— Flexible
  – No fixed personnel or direct costs

— Mobil
  – Money is transferrable

— Networking
  – Emmy Noether fellow meetings

— Extras
  – Support for soft skill training
Funding opportunities for different career stages

- Postdoc positions
- Junior research groups
- Visiting scientists
Funding Opportunities for visiting scientists

- **DAAD** RISE program
- Humboldt Research Fellowship for Experienced Researchers

- **DFG** Mercator Fellow, Initiation of International Collaboration

Find a collaboration partner in Germany
Write a proposal/application
Or: Make your collaboration partner write it
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How to Write a Good Grant

— How to submit a *good* proposal: Dos

— Start with a focused working hypothesis: What exactly do you want to find out?

— Provide all necessary information, but only that

— Give proof that you are able to deliver on the project; demonstrate your specific expertise and your academic independence

— Think like the reviewer: make your proposal convincing!
How to submit a *good* proposal: Dos

- Be realistic, begin with a smaller project
- Allow for more time than expected for writing and handling
- Ask experienced friends or colleagues for advice and critical reading
- Follow the funder’s specific guidelines
- Explain any career breaks that may have affected your academic track record
How to submit a *good* proposal: Don’ts

- Get stuck in your PhD lab
- Apply without having any first author publications
- Ignore relevant literature
- Change the author sequence in references of your publication list
- Refer to cooperations that are not confirmed by the collaboration partner
- Take reviewers’ critique personally
How to Write a Good Grant

— Essential funding criteria

— Project’s academic merit, significance and originality
— Soundness of the preliminary work
— Conclusiveness of research objectives and work programme
— Academic qualification of the applicant, quality of publications
— Feasibility, working environment
— Proposed use of funding
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Tips – Information Material

- Publications available at www.dfg.de/researchmarketing (materials)

- Research in Germany
  Cellular and Molecular Biology

- Presentations held at international scientific meetings

- Publications available at www.research-in-germany.de

- German Funding Programmes
  FAQs – Preparing a successful research stay in Germany
Tips – Meet the Scientist

Sunday, December 15, 1:30 — 2:30 p.m.
Jan Faix
Faix Lab – Cytoskeleton Dynamics,
Hannover Medical School

Monday, December 16, 1:30 — 2:30 p.m.
Frank Jülicher
Director and Scientific Member at the Max Planck Institute for the Physics of Complex Systems, Dresden

Tuesday, December 17, 12:30 — 1:30 p.m.
Christian Behrends
Head of an Independent Research Group – Autophagy Signaling Group,
Goethe University Frankfurt

Tuesday, December 17, 1:30 — 2:30 p.m.
Frauke Melchior
Vice-Dean for Research,
Melchior Lab – Posttranslational modification with Ubiquitin related modifiers of the SUMO family,
University of Heidelberg

Pre-registration is not required. First come, first served!
Thank you for your attention!

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