

Grants/support recent PhD for a postdoc Bebra, Sep 2017

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Germany: 500 PhDs in Math awarded each year.

Postdoc: first (inevitable) step toward an academic career!

- do you want to become an academic (university/few research institutes)?
- chances of success in a competitive environment?
- interesting options outside
- at least in the initial period: can still leave

- relative freedom and independence
- if you like to do math research/work with students: can do a lot of this
- reputation
- job security, one can live on the salary

- highly competitive: flat pyramid, many drop out
- long period of insecurity
- nomadic life from one postdoc to the other
- limited compatibility with family life
- long periods of frustration (no results, dumb students)
- non-autonomy (frustration)
- higher salaries possible in industry and business

Advise from where?

- Talk to your advisor, second advisor.
- Talk to fellow students. Ask yourself.
- Give the option of result-open discussions.

Postdoc positions

The more common postdocs are (advertised?) positions.

Often very specific to a research area/theme: you might or might not be qualified. It is good if people at the place you apply know (and like) you, or at least your advisor —whom

It is best if many people (who decide) in your area know you (and like you):

- go to conferences/schools
- talk to people
- try to present your work, if you get the chance (you might even ask if you can)
- talk to your advisor and other people around about options
- read the ads: north America: mathjobs of AMS
- Europe: unfortunately scattered
- reference letters are more and more important!

- **DFG (German Science Foundation)**: here I can tell you most. Programs “Own Position”, “Emmy-Noether group” and **“Research Fellowship”**
- **DAAD (German Academic Exchange Agency)**: **“Research Fellowships”**
- Humboldt Foundation: Humboldt Fellowships for incoming Postdocs and (limited) for outgoing ones
- EU and ERC (European Research Council): Marie Skłodowska-Curie Actions and Starting Grants
- foundations
- funding agencies of other countries

Postdoc for upto 24 months.

less than 12 of the last 36 months in the host country!

Need at least 4 years of research acitivity or a PhD (if I understand correctly).

Application is done by the host organisation, represented by the **mentor!**

Information (including online submission)

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

There are deadlines and changing proposals.

Success rates under 15%.

2–7 years after PhD

upto 1.5 Mio for max 5 years

can try to negotiate a tenure track with some universities (like TUM and LMU)

highly competitive (top journals, other grants/prizes)!

together with host institution, but own submission.

Success rate 10%.

Mention them in the application prominently!

- child care !
- care for old relatives (?)
- handicap
- special situation due to move from less developed country

upto 3 years postdoc

requirement is an independent research profile:

- convincing CV
- publications (best not all with your advisor)
- beneficial is experience at more than one place
- good research plan. It is fine if it builds on your thesis, but its better if it opens to something new beyond.
- don't ask for all too much (travel/guest), but also not for too littl, perhaps find out standards

- upto 6 years after PhD
- funding for 5 years
- own position and (small) group (postdocs/PhD students)
- very selective, makes sense only with experience, with good ideas
- you can choose the host institution, which has to support you (will typically be glad to do this)

Need a host to work with who supports the application!

To work in Germany: you must come (now) from abroad.

To work abroad: you have to identify a Humboldt alumnus. Possible only for shorter stays (if I'm not mistaken). They sometimes have calls for specific areas (check website).

For a research stay abroad: find a fitting host institution, best with a mentor really interested in you/your work. Pitfall: most institutions will be glad to have an extra researcher “for free”, but some top US places require overhead. There are also rumours about problems with the US minimum wage law.

- upto 24 months. Scholarship (less than salary, but tax-free)
- for early career people potential can be sufficient
- support letters (from your advisor, the host) are quite helpful. Cofunding is particularly convincing (but not required at all)
- good research plan is required

DFG evaluation process

- 1 online application. No deadline
- 2 registered, checked for completeness, send to referees (usually 2)
- 3 referees write report (1/3–4 pages), typically with a recommendation. Quality and taste varies, the applicant needs a bit of luck (the referee is anonymous to you, but knows you). You can ask for exclusion of specific referees (usually not necessary in math)
- 4 the math panel of DFG (4 meetings/year) weighs all proposals & referee reports and makes a quasi-final recommendation for/against funding
- 5 DFG senat (4 meetings per year) approves decision
- 6 DFG staff is happy to tell math board recommendation (phone)
- 7 written decision letter (with reasoning and excerpts from reports) comes later.
- 8 appeal (well founded!) and in particular resubmission of revised project is possible (the latter happens frequently)

Research plan

- can build on your PhD, but better goes beyond/broadens.
- should be in your area of expertise
- Research goals should be relevant and interesting, more than just incremental and “automatic”, but realistic. Perhaps best a mix
- talk to experts, in particular your advisor and potential hosts/mentors: they might share ideas
- “state of the art”, “preliminary work”, research plan (goals, route, some ideas)
- cite the relevant work (don't overdo it, but certainly don't underdo it, some referees can interpret missing literature as lack of knowledge (and some just want to see their own work cited)
- don't put too little into the proposal, but don't make the (common) mistake of planning too much, if this is unrealistic within the timeframe (you can do it with disclaimers like “if things go well”, “long-term perspective”, . . .)

Choice of host institution

- activity in your area
- in particular if you don't work very independently: accessible mentor (good if more than one option)
- watershed for that: convincing support letter, perhaps help with research plan
- international recognition in the area
- a bigshot who is never around might not be the best option
- going abroad and wanting to return: try to keep contact by going to schools/conferences
- being already a bit interesting (results you can talk about) helps to get some exposure abroad. Going abroad "on leave" from a postdoc in your country of choice with a little experience might be optimal.

rather similar to the DFG one in scope and requirements. But I'm not sure how much external referees are involved. Daniel does this soon.

- DFG is very flexible in its requirement on format; if you feel it works better you can make changes
- other agencies (e.g. EU) are extremely strict
- Solicit critical remarks on your proposal (it is written to be read by others, so use that you can test how it works on others).
- Talk research plan over with more experienced people.
- If you can choose the host institution: explain why you make the particular choice. Mobility is not required, but valued. If you want to stay where you are: explain.
- Check whom you address (most) and write for the targeted audience!
- Check deadlines —well in advance; and work accordingly (also in light of support letters, other documents and sloppyness of people providing them, etc)

- DFG: expert referees and panel of mathematicians.
- Research profile for a postdoc position: somewhat difficult because you address different people: , research profile (short or long?, maybe synopsis and extended), teaching statement (often a bit less crucial: teaching experience doesn't hurt)
- Humboldt: expert referees and panel of scientists.
- EU/ERC: expert referees and panel of mathematicians
- DAAD: check
- other: check, try to ask (it is permitted to call the funding agencies).