

Guidelines for the Postdoc Phase within the Helmholtz Association

Working Group Postdoc Guidelines¹

adopted by the Assembly of Members of the
Helmholtz Association on April 18, 2018

PREAMBLE

Through their research, postdocs in the Helmholtz Association make significant contributions to solving the grand challenges facing science, society, and the economy. Their achievements are central to the scientific success of the Helmholtz Association.

The present guidelines are based on the mission of the Helmholtz Association and were put together jointly by the Helmholtz Centers to outline common quality standards for the postdoc phase. The Helmholtz Centers share the understanding that the period after receiving a doctoral degree is key to a researcher's career development. The centers aim to offer postdoctoral scientists an outstanding scientific environment to carry out their research and to further their skills, as well as supporting them in making decisions about their future careers. Helmholtz Centers aim to particularly encourage excellent female scientists to continue to pursue scientific careers.

DEFINITION AND ELEMENTS OF THE POSTDOC PHASE

Definition

The postdoc phase is the stage of a researcher's career that follows their doctoral degree. During this time, researchers further expand their skills and experience for a limited period of time in order to strengthen their scientific profile, and to identify and prepare for their future career paths within or outside of academia.

In the context of their doctorate, postdocs have already proven that they have a thorough and systematic understanding of their research area and have made an independent contribution to science. The postdoc phase primarily provides researchers with the opportunity to expand on these skills by conducting independent research, developing their own research agenda and, if applicable, acquiring funding. Moreover, postdoctoral researchers are expected to demonstrate the ability to make important contributions to science, expand their networks, and gain clarity as to what professional objectives they consider desirable and achievable. Finally, they are expected to develop interdisciplinary skills that are crucial for careers both within and outside academia.ⁱⁱ

Elements of the postdoc phase

The beginning of the postdoc phase mainly serves to identify a new scientific project, to prepare a viable research agenda and to define training and development goals and measures in agreement with the principal investigator. The duration of this phase may vary, but should generally not exceed six months.

The postdoc phase is dedicated to developing a unique scientific contribution to the chosen research field, to strengthening the postdoc's scientific profile, and to gaining the necessary qualifications and experience for a career within or outside academia. This includes writing research publications, contributing to technology development and patents, acquiring third party funding, participation in conferences and possibly visits abroad, as well as experience in teaching, supervision and leadership.

As a general rule, a basic decision about the postdoc's future career should be made within four years after they received their doctorate. In this period the postdoc finishes their scientific projects and takes the required steps towards this career. The Helmholtz Centers aim to help postdocs identify possible career paths and to provide early and personalized career advice and support.

The time periods stated above indicate time spent purely on postdoctoral qualifications and research. For example, parental leave, care of family members or illness should be taken into account in an appropriate manner.

RESPONSIBILITIES

Postdocs are highly qualified, professionally experienced scientists and assume responsibility for their own research and career development. They are supported in doing so by their principal investigators. Together with the Helmholtz Centers, which create optimal framework conditions for the postdoc phase, both the postdocs themselves and their principal investigators are responsible for the successful outcome of the postdoc phase.

The responsibility of the postdoc

The postdoc

- chooses and develops a research topic in agreement with her/his principal investigator and takes into account what further career opportunities within and outside academia relate to this topic.
- plans her/his own career, reflects on motivation, professional goals and the requisite qualifications. She/he independently obtains feedback from the principal investigator and mentors within and outside academia.ⁱⁱⁱ
- assumes ethical responsibility and follows and conveys the principles of good scientific practice.^{iv}
- strengthens her/his scientific profile, for example through publications, conference contributions and networking at the Helmholtz Center and within the scientific community, and actively seeks to acquire third party funding and awards.

The responsibility of the principal investigator

The principal investigator^v

- allows the postdoc a high level of responsibility and scientific freedom.
- gives constant feedback on the research project and further career prospects early on, in particular in scientific research.
- assumes ethical responsibility and follows and conveys the principles of good scientific practice.
- supports the postdoc in shaping an independent scientific profile and, in particular, encourages active participation in conferences and production of scientific publications, which help to raise the postdoc's visibility. The principal investigator also supports the postdoc in the submission of her/his own grant applications.
- enables the postdoc to acquire competencies beyond her/his own research, for example, to communicate her/his own scientific results to a wide audience, fulfill leadership tasks, and gain teaching experience.

The responsibility of the Helmholtz Centers

The Helmholtz Centers provide the structures and resources for a successful postdoc phase. They support postdocs and their principal investigators and are responsible for quality assurance as defined by these guidelines.

Central points of contact for postdocs

The Helmholtz Association supports the establishment of central points of contact for postdocs. They have the task of supporting the implementation of the present guidelines, taking into account the specific structures at their Helmholtz Center. The central points of contact advise and support all postdocs carrying out research at their center, taking the specific needs of international postdocs into account.

Good scientific practice

The Helmholtz Centers ensure that research is carried out according to the principles of good scientific practice and that appropriate procedures are in place for handling scientific misconduct. The Helmholtz Centers are committed to their responsibility towards their early-stage researchers, and to their obligation to convey the principles of good scientific practice and provide supervision according to good scientific standards.

Postdoc networks and representation

The Helmholtz Association supports the formation of self-organized and self-run postdoc networks and interest groups. Postdocs should be involved in relevant decision-making processes at the Helmholtz Centers by participating in the appropriate committees. Their principal investigators should provide the necessary freedom for them to do so.

Compatibility of private life and career

The phase after the doctorate requires not just higher scientific performance, but also often places demands on the balance between professional and private life. The Helmholtz Centers aim to provide optimal support for these challenges and especially to ensure family-friendly conditions. This includes, for example, that – if possible – childcare is provided and that flexible arrangements for working hours and location are made possible, equally for men and women.

COURSE OF THE POSTDOC PHASE

Beginning of the postdoc phase/recruitment

Recruitment

The Helmholtz Association welcomes individual, social and cultural diversity. The selection of postdocs should take place through a systematic and transparent procedure that guarantees equal opportunities and diversity. The competencies expected of the candidates should be communicated clearly, along with the training and development opportunities available to them. These should be adapted to the period of the postdoc phase to which the researcher has been recruited.

Duration of the work contract

Postdocs are generally employed for a limited period of time. The duration of the work contract depends on the predefined qualification objectives. If possible, the contract should not run for less than two years. Extensions should – if possible – not be less than one year.

Funding

The Helmholtz Centers welcome postdocs who acquire prestigious external scholarships and provide them with comprehensive access to the supporting structures of the center. At the same time, howev-

er, the Helmholtz Centers disapprove scholarships as an alternative to regular employment contracts. The principles of these guidelines apply to all postdocs regardless of their funding or employment relationship.

Initial agreement

At the beginning of the postdoc phase, the principal investigator and the postdoc should meet to agree on the postdoc's specific research and development goals. The results of the meeting should be documented by mutual agreement. It is recommended that postdocs prepare an individual development plan that is discussed on a regular basis with the principal investigator within the context of annual status meetings.^{vi} The postdoc and the principal investigator can contact the center's internal counseling services for additional advice.

Implementation of the postdoc project and qualification

Status meetings

During regular status meetings, the principal investigator and the postdoc discuss progress regarding the agreed objectives, along with possible questions and problems for which the postdoc develops feasible solutions with the support of the principal investigator. The results of each meeting should be documented by mutual agreement and an appointment for the next status meeting should be made.

An initial status meeting should be held after six months, or before the end of the probationary period, and at least once a year thereafter. This meeting can take the form of an employee development meeting.

Mobility

High visibility of a postdoc's work is key to being recognized at the national and international levels. Principal investigators should therefore facilitate and encourage the postdoc's active participation at conferences. In addition, stays at research institutions and companies in Germany and abroad could be considered, as well as participation in international projects during the postdoc phase.

Leadership and teaching

Researchers should have the possibility to gain experience of personnel management and teaching during their postdoc, skills which are useful for a future career within and outside academia. This includes supervising an appropriate number of bachelor's and master's theses, co-supervising doctoral candidates and other staff, and the opportunity to teach.

Career guidance and further qualification

Postdocs are responsible for making use of the training and counseling services on offer to them. Central organization units of the Helmholtz Centers offer professional advice and training, provide information about existing mentoring programs and make recommendations regarding further training. These central services are also available to principal investigators who supervise postdocs.

Career after the postdoc phase

Career development meeting

In addition to the regular status meetings, the principal investigator and the postdoc should have an in-depth career meeting, which should take place at the latest in the postdoc's fourth year. The aims of the meeting are to assess the postdoc's research performance and prospects of a career within and

outside science. Promising female postdocs should be particularly encouraged to continue scientific careers.

For this meeting, in addition to the principal investigator, a further person (e.g. the postdoc's mentor) can be involved to help realistically assess the prospects of success in a scientific career and/or to explore possible alternative career prospects.

Career within the Helmholtz Association

To accomplish the Helmholtz mission, the Helmholtz Centers aim to recruit and retain the most talented scientists even though there is no automatic progression to the next scientific position at the Helmholtz Centers. A fair, structured and transparent procedure for a further career at the Helmholtz Center and for the appointment of permanent positions must be in place.

End of the employment relationship

At least six months before the end of the employment contract/scholarship, all stakeholders should come to an agreement on the possibility of continued employment. Furthermore, at the end of the postdoc/prior to termination of the employment, a final meeting should be held between the principal investigator and the postdoc to review their cooperation and the postdoc's personal development and to assess potential further collaboration.

ⁱ Members of the Working Group: Sibylle Günter (Max Planck Institute for Plasma Physics) (Chair); Johannes Freudenreich (Helmholtz Association) (Coordination); Martin Lohse (Max Delbrück Center for Molecular Medicine); Karsten Wurr (Alfred Wegener Institute); Anne Hilgendorff (Helmholtz Zentrum München); Barbara Janssens (German Cancer Research Centre); Iris Köhler (Helmholtz Centre for Environmental Research); Lisa Wagner (Max Delbrück Center for Molecular Medicine); Claudia Kleinwächter (GEOMAR Helmholtz Centre for Ocean Research); Katharina Klein (Forschungszentrum Jülich); PD med. David Elmenhorst (Forschungszentrum Jülich); Isolde von Bülow (LMU Munich); Beate Scholz (Scholz CTC GmbH) and Christiane Kasack (Helmholtz Association). The working group thanks Reinhard Jahn (Max Planck Institute for Biophysical Chemistry), David Bogle (University College London) and Helke Hillebrand (University of Heidelberg) for their valuable contributions and comments.

ⁱⁱ The National Postdoc Association defines six core competencies of postdocs that can serve as a basis for determining qualification goals: <http://www.nationalpostdoc.org/?CoreCompetencies> [accessed on 17/07/2017]. See also https://cdn5.euraxess.org/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_final.pdf [accessed on 18/07/2017] and http://www.uniwind.org/fileadmin/user_upload/Publikationen/2016_UniWiND_Bd6_A5_web.pdf [accessed on 18/07/2017]

ⁱⁱⁱ Many Helmholtz Centers and the Head Office of the Helmholtz Association offer mentoring programs. The central points of contact for postdocs can provide recommendations.

^{iv} Each Helmholtz Center has one or several ombudspersons who can be consulted in case of potential violations of good scientific practice:

https://www.helmholtz.de/en/about_us/the_association/good_scientific_practice/

^v As a rule, the principal investigator is the head of the research group or the direct superior. If the postdoc is funded by a scholarship, the scientific host will assume the principal responsibilities described here.

^{vi} The American Association for the Advancement of Science offers a helpful tool for preparing individual career development plans on its website: <http://myidp.sciencecareers.org> [accessed on 18/07/2017].