

Recommendation by the 16th  
General Meeting  
of the HRK  
on 13 May 2014 in  
Frankfurt/Main

**Guidelines for the  
advancement of early  
career researchers in the  
post-doctoral phase and  
for the development of  
academic career paths in  
addition to that of a  
professorship**

Dedicated to the memory of Prof. Dr. Nikolaus Fiebiger, Vice President of  
the HRK for many years

**HRK** German Rectors' Conference

The Voice of the Universities

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## **I. Preliminary remarks**

After they have been awarded their doctorates, early career researchers go through a number of different phases in their training. These phases and the interests of each early career researcher should be considered in detail so that the appropriate framework conditions can be offered. These recommendations concern the advice available to early career researchers in the post-doctoral phases and the training offered to equip them for a wide range of career paths in universities and the public sector, besides a career leading to a professorship. They are intended to stimulate discussion and need to be constantly reworked with a view to the development of the system as a whole and they should take account of international perspectives.

The staffing situation in the higher education system in Germany is currently characterised by many researchers who have come into the system in fixed term posts as the result of increased funding from third parties, in addition to the existing posts. The number of permanent posts and professorships has not grown proportionally in relation to the number of qualified early career researchers, which has greatly reduced their chances of remaining or gaining promotion in an academic post. The member organisations of the HRK therefore see a need for action particularly where the advancement of early career researchers after their doctorates is concerned and for their specific interests to be taken better into account by the universities. Clear information about different careers in an academic context and transparency and reliability are important prerequisites that will allow this group of early career researchers to make these very personal decisions about their future careers.

The Federal Government and the federal states should make a major contribution to improving the personnel structure in universities by putting in place framework conditions that offer legal and financial certainty and by increasing basic financing. This would allow the higher education institutions to plan with more confidence and thus instigate consistent staff development in the academic environment.

All universities are responsible for improving their staffing structures so that they can offer students who have completed their studies attractive career opportunities and additional qualifications to prepare them for various careers outside of the universities. Personnel development concepts specifically for the higher education system are a key requirement. Comparable formats can be developed for graduates of the arts.

## **II. The post-doctoral stages of an academic career**

Training for early career researchers in the post-doctoral phase is divided into two stages at universities. They are not formally compulsory, can have varying durations and assume different manifestations.

In the first, usually fixed-term phase after the doctorate (training phase or 1st post-doc phase) the post-doc student is responsible for managing a project, either with or without supervision., depending on what is customary in the discipline in question. This phase is characterised by continued research learning ( recognised researcher<sup>1</sup>). In order to benefit the researcher's career development, it should not extend much beyond 3 years. It can lead directly to other work in a university or to a non-academic career.

In the second phase, which similarly is often fixed term at universities, (decision phase or 2nd post-doc phase), the researcher works independently without supervision (established researcher<sup>2</sup>). In this stage, the researcher might work in many different positions, depending on what is customary for the discipline in question. At the latest when this phase starts, researchers should be reasonably certain about the career path they wish to pursue and the opportunities and risks it will present. This phase should not be longer than 6 years to benefit overall career development.

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<sup>1</sup> The European Commission, Directorate General for Research & Innovation, Towards a European Framework for Research Careers, 2011, Annex III.

<sup>2</sup> The European Commission, Directorate General for Research & Innovation, Towards a European Framework for Research Careers, 2011, Annex III.

### III. Academic career paths

In the past, a professorship for life in the universities was generally seen as the key career goal of researchers after their PhD, although this might have varied from discipline to discipline. For this reason, the universities did not prepare researchers adequately for other careers within and outside of the higher education system. However, a focus on this position reflects neither the desires nor the reality for the early career researchers of today nor the requirements of the universities and society, which need young academics in non-university research institutions, in business, research organisations and the public sector.

The number of doctorates awarded has increased over recent years, amounting to just under 27,000 in 2012<sup>3</sup>. However, 7400 of those were in medicine. The ratio of doctorates to vacant professorships has averaged 20:1 over the years<sup>4</sup>. However, it should be noted that doctorates are not always associated with the goal of a career in research. This holds true for chemistry, for example, where a doctorate is a requirement for a number of jobs outside of higher education. Similarly students often take a PhD in medicine and in legal and business subjects with a view to an independent career in those areas. Nevertheless, the ratio clearly illustrates that the chance of a professorship is slight for all those remaining in the system after their doctorate, irrespective of the subject.

Surveys of doctoral students have also shown that different career goals are associated with pursuing a doctorate: only 26% of graduates in a survey conducted by Hochschul-Informationen-System GmbH in 2013 gave a university career as their goal after their PhD; 40% were aiming to work in research<sup>5</sup>.

For a long time, many researchers with doctorates have been undertaking important long-term work in the universities, which is not appropriate for the fixed-term nature of their employment. The fluctuation resulting from the fixed-term positions ties up large amounts of resources for recruitment and familiarisation and leads to a loss of knowledge and skills. Permanent academic positions in research, on the teaching staff and research administration, which represent attractive prospects to early career researchers are required so that the universities can fulfil their remit.

The process of differentiation in the higher education landscape and the need for academic personnel that it gives rise to calls for a change in thinking and there are specific consequences in terms of defining jobs for career paths within universities;

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<sup>3</sup> Statistisches Bundesamt (Federal Statistical Office), Fachserie (Volume) 11, Reihe (Series) 4.2., Prüfungen an Hochschulen [University Examinations], 2012.

<sup>4</sup> In mathematics and the natural sciences, the ratio is 30:1, in linguistics and cultural studies and in law, business and social sciences it is 15:1 and in engineering sciences it is 8:1.

<sup>5</sup> HIS:Forum Hochschule 10 | 2013; Gregor Fabian/Torsten Rehn/Gesche Brandt/Kolja Briedis; Karriere mit Hochschulabschluss? [Career with a university degree?], 32.

**Research:**

There is a large demand at universities for fixed-term and permanent researchers who work independently but who are supervised within the structure. Permanent positions are required at universities particularly in large and long-term projects to ensure that the methods used are high-quality and consistent. They are also helpful in ensuring that doctoral students can be supervised correctly. These career paths in research are founded on the decision phase (see II. above) after the doctorate has been awarded.

**Teaching:**

With an increased demand for higher education, the requirement for suitable teachers has increased significantly. "Independent teaching" opens a large window of career opportunities for appropriately qualified early career researchers provided the federal states put the necessary legal framework in place. When primarily teaching-orientated jobs are created, the teaching commitment and the duties in the teaching organisation should be designed to allow research to be carried out at the same time. This is a fundamental requirement for research-based teaching at universities. Depending on the scope and nature of the teaching position, these jobs should be permanent, as should the appointments made to them.

**Research and information structure:**

In every discipline there is a growing need for qualified personnel to work within the research and information infrastructure (major instrumentation, special laboratory units, digitalisation projects, large-scale studies, data management and academic collections). Suitable permanent posts should be set up for these ongoing functions to attract the highly-qualified personnel they require to the universities and the non-university research institutions.

**Knowledge management:**

Many new positions have been created in the area of research management at universities and research institutions. This is the result of changes in the relationship between research and the state as the former has been granted greater autonomy and the accompanying requirement for the universities and research institutions to be run with more professionalism and greater accountability. Furthermore, with new structures resulting from prioritisation, cooperation, internationalisation and changes to graduate education and with sharper competition for funding, new jobs have been created at a central and decentralised level at universities. With their specialist qualifications, researchers are the ideal candidates to fill these positions in higher education or research management. Their subject-related knowledge should, however, be supplemented with additional qualifications in management. Research management functions are mostly ongoing and appropriate permanent researcher posts need to be created for them.

**Research in business:**

Two-thirds of research and development in Germany is carried out by private companies, creating a very large demand for qualified research personnel. Collaboration between universities and companies offers the best conditions for the transition from the post-doctorate stage to a long-term research job in a company. Working in companies in which research is undertaken can however also be an important criterion for a later professorship at a university and represents an additional career qualification particularly for engineering sciences at universities and for professorships at Universities of Applied Sciences.

**Working in the public sector:**

Businesses, foundations, industry associations and public administration have a significant requirement for academic personnel in challenging and managerial functions. Highly qualified staff with doctorates in the sciences can offer experience and specialist qualifications to meet important criteria for jobs in these institutions and for self-employment.

**IV. Areas for action for the universities**

Advancement of early career researchers and the issue of personnel development needs to be reflected in the universities' objectives and in their mission statement.

It is equally necessary that policy-makers recognise that universities have these duties and take that into account in financial planning so that the appropriate measures can be implemented at every type of university.

It is essential that appreciation of the value of early career researchers and research personnel becomes an integral part of everyday culture and goes hand in hand with personnel development concepts.

Universities, which are successful in this area, will attract the best national and international early career researchers, will be able to compete with non-academic labour markets and thus improve their research and teaching performance permanently.

This recommendation proposes that the universities take the following actions, which should be continuously developed and adapted to academic and social requirements.

**Involvement of the entire university:** Systematic advancement of early career researchers and career development for research personnel are key factors in the success of a university. Managers at all levels of the university should ensure that research staff are encouraged to explore their scientific potential and that they are offered freedom to develop in the interests of the university<sup>6</sup>. This can be achieved by creating suitable incentives for implementation. Furthermore, employers

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<sup>6</sup> See also: German Council of Science and Humanities, Perspektiven des deutschen Wissenschaftssystems, [Prospects for the German Research System] 2013, 54.

and supervisors should support early career researchers with advice when they are making decisions about their personal career development.

**Identifying permanent posts and appointing incumbents:** The universities and faculties should identify permanent academic functions and concepts for the required portfolio of jobs. Commensurate with the significance of permanent employment, quality-driven, objectifiable and transparent selection procedures should be established at the universities for permanent appointments to these positions. This also encourages an equal-opportunities approach as the practice of individual mentoring, which has up to now dominated the German research system, is one of the reasons why it has been disadvantageous to women<sup>7</sup>.

**Rules governing fixed-term employment<sup>8</sup>:** Suitable measures should be put in place so that fixed-term employment contracts provide for an appropriate employment relationship<sup>9</sup> by ensuring that the terms of project-related contracts are tailored to the period over which the project will run. Supervisors are responsible for communicating clearly to the person affected that the task they are engaged on is time-limited and to offer them the opportunity to discuss their future career development.

**Advice:** One important step is management training for supervisors so that they can successfully fulfil the role and assume the responsibility which comes with it for personnel development and thoughtful career advice for early career researchers. Going beyond this, mentoring programmes and coaching should ensure that in the immediate post-doctoral phase there are people available who can act as liaison and contact persons for questions concerning career paths.

**Training:** Universities should offer suitable opportunities for gaining further qualifications or draw the researchers' attention to training provided externally to make a range of different career paths within and outside of universities accessible to early career researchers. Within the university, this includes training for management positions in the research system, teaching and supervisory responsibility and preparation for working independently in research-based spin-offs. The availability of these options should be sufficiently well publicised.

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<sup>7</sup> Frauen fördern, Empfehlung des 209. Plenums der HRK zur Verwirklichung von Chancengleichheit im Hochschulbereich vom 4.11.2006. [The advancement of women; recommendation by the 209th plenary assembly of the HRK on the realisation of equal opportunities in the higher education system]

<sup>8</sup> See footnote 1

<sup>9</sup> See also: Wissenschaftsrat, Perspektiven des deutschen Wissenschaftssystems, [German Council of Science and Humanities, Prospects for the German research system], Drs. 3228-13, 46.



**Cooperative ventures:** The university can provide the opportunity for staff to become familiar with and consider alternatives to a career in the same institution through cooperative ventures that are both suitable and in keeping with its profile with other universities and also through cooperation platforms between different types of higher education institution and with non-university research institutions, public providers and private companies. This can range from purely informative joint events and Research Training Groups to more lengthy periods of exchange.

Improving the situation of post-doctoral researchers at the universities requires more attention to staff development and the associated training, for which there should be sufficient funding available.

## **V. Recommendations**

- 1. To ensure their future viability, member universities are recommended to draw up concepts for the advancement of early career researchers and options for academic career paths with due regard to rules governing fixed-term employment and opportunities for further training. The staff development concepts should take account of equal opportunities for women and men and also of diversity.**
- 2. It is furthermore recommended that each university involves its faculties in drawing up a concept for future staffing arrangements and personnel development, including specific requirements of permanent and fixed-term employment for post-doctoral research personnel.**
- 3. The member institutions should send these concepts from Autumn 2014 to Spring 2015 to the HRK so that they are available for initial perusal at the General Meeting and a number of good examples can be presented and further action discussed.**
- 4. The Federal Government and the federal states should provide a robust legal and financial framework and increase basic financing to improve personnel structures for post-doctorate staff in the universities.**