

Recommendations for a future-oriented qualification of doctoral candidates in Germany

Disclaimer: This is the English translation of the German paper "Empfehlungen für eine zukunftsorientierte Qualifizierung von Promovierenden in Deutschland" which was published in June 2025: For your information only.

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Preliminary remark

UniWinD e.V., the University Association for the Qualification of Early-Career Researchers in Germany published recommendations for doctorates at German universities in 2011.¹ Many of these have since been implemented and become standard practice (e.g. the introduction of supervision agreements). In view of current developments and challenges, UniWinD aims to make new recommendations for the further improvement of doctoral conditions in Germany. In doing so, we draw on the experience of the graduate centres at our member universities. They act as contact points for doctoral candidates and those interested in doing a doctorate, and also are involved in shaping the doctoral process within their institutions.²

The UniWinD recommendations 2025 complement similar positions such as those of the German Council of Science and Humanities (Wissenschaftsrat 2023) and are aimed at all universities and higher education institutions, faculties/departments and graduate centres as well as non-university research and funding organisations, third-party donors and higher education policy decision-makers.

Key recommendations

Doctoral candidates are researchers in their first career phase. By carrying out independent, original research, they generate important scientific knowledge. This is both the core and the goal of their own doctorate. Their academic work provides them with specific as well as transferable skills which they can use in various professional fields after completing their doctorate.

The successful completion of a doctorate – within an appropriate time frame – crucially depends on, productive academic supervision, along with a strong research environment or integration into a supra-regional network that facilitates academic exchange. Doctoral candidates should be specifically supported in their independence, personal responsibility and integration into the scientific communities.

In addition to academic supervisors, graduate centres play an important role in supporting doctoral candidates, particularly with regard to networking opportunities and interdisciplinary qualifications. At the same time, these institutions play an important role in organising and structuring the doctoral phase and for quality assurance.

UniWinD strongly recommends the implementation of the following key elements:

- Separation of supervision and assessment with simultaneous abolition of the current grading practice;
- Adequate funding of doctoral projects for at least 3 years and at least 65 % of a full-time position;
- Ensuring an elected representative body for the effective participation of doctoral candidates in university decision-making bodies;

¹ UniWinD (2011).

² The paper was drawn up by a task force convened by the UniWinD Executive Board, in which the majority of experts with many years of experience from the graduate centres of the member universities were represented. An overview of all members of this task force can be found on the UniWinD website: <https://www.uniwind.org/arbeitsgruppen/task-force-empfehlungen-zur-promotion>.

- Mandatory introduction to the essential aspects of good scientific practice for all doctoral candidates (also with regard to artificial intelligence);
- Alignment of interdisciplinary qualification offers with the competencies required by the non-academic labour market;
- Increased focus on the special needs of international doctoral candidates, particularly in onboarding and offboarding;
- Openness to the diversity that goes along with cooperative doctoral procedures while ensuring all critical quality standards.

1 Supervision and assessment of doctoral theses

Successful supervision and fair and quality-assured assessment are crucial for the quality of the content of the dissertation, for the successful completion of the doctorate within a reasonable period of time as well as the quality of life and the subsequent career development of doctoral candidates.³ Although the majority of doctoral candidates are currently satisfied with their supervision (cf. National Academics Panel Study/Nacaps surveys), we also see the risk of abuse of power and misconduct resulting from the considerable imbalance of power between supervisors and doctoral candidates. Supporting doctoral candidates and supervisors in creating a constructive supervisory relationship is an important task of graduate centres.

UniWinD recommends, with the aim of high-quality supervision, fair evaluation and prevention of the abuse of power:

- In the course of formal admission as a doctoral candidate, an **individual and detailed supervision agreement** should be finalised. This document sets out the respective rights and obligations of all parties involved in the sense of transparent management of expectations. It is also important to define the doctoral candidate's development steps, which have to be regularly reviewed and adjusted. Aspects such as the planned financing of the doctoral project, the time available for the dissertation and options to acquire additional qualifications should also be part of the supervision agreement. International doctoral candidates and other groups of people with diversity characteristics may be supported by further measures. The development of model agreements and guidelines is a task of graduate centres.
- UniWinD generally recommends the **supervision and support of doctoral projects by at least two people** or by **thesis committees consisting of several members**, with the roles of the members clearly defined in the supervision agreement. In addition to supervisors, mentors can give professional or personal advice.
- In view of current international practice, fair and unbiased assessment and as part of the prevention of power abuse, the **supervision** of dissertations should also be **separated** from their **assessment** in Germany in the future.⁴

³ For further recommendations and examples of implementation to support doctoral supervision, see UniWinD publications vol. 4 (Carmesin et al. 2014) and LERU's view on holistic doctoral supervision, Hillenbrand et al. (2023).

⁴ Cf. Wissenschaftsrat (2023) on the separation of supervision and assessment p. 39. The prevention of abuse of power must be supplemented by further measures. Cf. also section 4 of this paper "Scientific integrity of doctorates".

- In order to achieve this goal, the current **grading practice** for dissertations and disputations should be replaced by a system that only awards honours to outstanding dissertations (e.g. the best 5 to 10 %) and otherwise distinguishes between “pass” and “fail”.
- **Post-doctoral researchers** who fulfil the criterion of scientific independence (R3)⁵ should be able to act as supervisors, reviewers and jury members for doctorates. The conditions are to be specified in the respective doctoral degree regulations. This also supports the goal of ensuring a quantitatively appropriate number of total doctoral theses supervised per person.
- Doctoral degree regulations should contain provisions to ensure that the dissertation **is published** within a reasonable period of time after the defence. Delays to the detriment of the doctoral candidate should be avoided.
- **Good supervision** should be recognised and made visible to the outside world, e.g. through a university **prize** (Supervisor Award), usually organised by the graduate centres.
- Graduate centres should **provide qualification programmes for supervisors** (supervisor training), if necessary in coordination with the university’s human resources department or personnel development department. These programmes should be mandatory for newly appointed professors.

2 Funding and duration of the doctorate

Funding of the entire doctorate should be fully clarified at the beginning and included in the supervision agreement. The available data on doctoral funding shows that adequate and reliable funding is often not consistently available and that doctoral candidates have to draw on various sources of funding over the course of their doctorate.⁶ Universities and funding bodies have a joint responsibility to secure funding for the duration of the doctorate.

UniWinD recommends the following standards for the scope, duration and design of employment contracts for doctoral candidates in order to promote adequate employment relationships, increase the rate of completed doctorates and ensure non-discriminatory employment conditions:

- **The minimum duration of doctoral funding (initial contract) is 3 years.** Extensions of funding through follow-up contracts should each be for at least one year.
- Part-time contracts should equal **at least 65 % of a full-time position.**⁷ To ensure that the increase of payment does not lead to a reduction in positions for doctoral candidates, this must be accompanied by a corresponding increase in university funding. In the medium term, university funding should be adjusted so that all doctoral candidates who do not wish to reduce their scope of employment for personal reasons can be offered full-time employment.

⁵ For example, by working on their own research topics with their own budget and leading their own working group. This corresponds to group R3 in the European reference framework.

⁶ In addition to the information from the cited literature, we based the following on the microdata set of the Nacaps survey of the German Centre for Higher Education Research and Science Studies for the 2017/18 and 2019/20 cohorts, in each case by main source of income. <https://nacaps-datenportal.de/>.

⁷ According to the Nacaps results, funding of less than 65 % is not considered sufficient by doctoral students. See Berroth et al. (2022) p. 7.

- As part of the doctorate, a **sufficient proportion of paid working hours** must be available for **independent research**. This ensures that doctoral candidates have sufficient time for academic qualification and can successfully complete their doctorate within an appropriate time frame. This proportion of time is specified in the supervision agreement at the beginning.
- Funding should be settled before the start of the doctorate and set out in the **supervision agreement**. When accepting a doctorate, the responsible committees should check **whether the funding arrangement allows the doctorate to be completed within a realistic time frame**.
- Doctoral candidates **with care responsibilities** should be provided with **flexible transitional funding** in addition to the statutory (e.g. in the WissZeitVG) and scholarship guidelines options for extending contracts (e.g. due to parental leave).
- **Doctorates within the framework of an employment contract with less than 65 % full-time equivalent or without academic employment** should only be possible if doctoral candidates voluntarily and consciously choose this option and have an alternative funding source (e.g. scholarship from the *Begabtenförderungswerke*, or funding within a part-time model, for example due to care responsibilities). Financing and working conditions comparable to those of an employment contract should be guaranteed.
- In the context of **third-party funding for doctorates**, the minimum standards mentioned here should be integrated into the funding conditions of third-party funding providers. In UniWinD's view, third-party funders, in addition to the supervisors and the universities as employers, also have a responsibility to critically examine whether the doctorates associated with the respective project can be carried out appropriately.

3 Access, selection, onboarding and status of doctoral candidates

A doctorate in Germany can be done in many different ways. UniWinD welcomes the diversity of pathways to a doctorate. However, this diversity means that entry options and selection processes are often poorly systematised and difficult to understand, especially for certain target groups (e.g. international doctoral candidates or doctoral candidates from non-academic backgrounds). The different institutional settings of doctorates contribute to the fact that the participation of doctoral candidates in institutional decision-making processes and effective representation of their interests is not guaranteed in all cases.

UniWinD therefore recommends with regard to access to the doctorate, the selection and status of doctoral candidates:

- **Doctoral positions are awarded transparently** through national or international **calls for applications**. **Specific needs of doctoral candidates**, such as those arising from the aspects of gender equality, diversity, internationality and/or non-academic background, are taken into consideration when awarding positions.⁸
- Regardless of funding and the type of doctorate, doctoral candidates are always selected according to **the principle of selecting the best candidates** and on the basis of transparent criteria. The corresponding **supervision capacities must be available**.

⁸ UniWinD has published its own publication on the topic of "Diversity and equal opportunities in graduate funding". See UniWinD publications volume 14 (Bauer et al. 2023)

- **Access to the doctorate for particularly qualified students with a Bachelor's degree** ("fast-track doctorate") contributes to the diversity of doctoral programmes and should be maintained.⁹ The strategic motivation here is primarily to attract and promote particularly talented Bachelor's graduates with an affinity for research. International research talents in particular are thus made an attractive offer.¹⁰ Fast-track doctorates should be linked to the award of a Master's degree as long as German collective bargaining law is not reformed in such a way that doctoral graduates without a Master's degree do not suffer any financial disadvantages.
- **Organised onboarding** of doctoral candidates should be established. In the interests of the target group and also the quality assurance of doctorates, new doctoral candidates should be offered regular **welcome days** to inform them about the local conditions and provide them with networking opportunities.
- The **statistical recording of all doctoral candidates**, which universities have been legally obliged to do since 2017, is an essential prerequisite for data-supported quality management of doctorates. In addition to the legal requirements, UniWinD also recommends recording and analysing the progress and retention of doctoral candidates.
- It is important for doctoral candidates to be represented on the relevant **university decision-making bodies**. **Admission as a doctoral candidate** at a faculty or other institution with the right to award doctorates is decisive for their **status as a doctoral candidate**. UniWinD is in favour of the creation of a **separate representative body for doctoral candidates**, whose elected members are effectively involved in university committees in a permanent position with voting rights. If doctoral candidates formally belong to several status groups due to their employment contract or enrolment, there should be a choice.

4 Scientific integrity of doctorates

Good scientific practice is not limited to preventing misconduct such as plagiarism, theft of ideas, data falsification and data fabrication. Rather, it is about an overarching culture of honesty in scientific work, which encompasses not only the entire research process but also the environment and, in particular, supervisory relationships.¹¹ This includes, e.g., organisational measures against abuse of power, a transparent research design as well as the creation of public access to research results. Embedding the doctorate in such a culture and communicating the corresponding standards are indispensable. The extensive use of AI tools is also leading to a profound change in scientific work, which will have a decisive influence on the scientific integrity of doctorates.¹²

UniWinD recommends with a view to ensuring the scientific integrity of doctorates:

- Universities must ensure that all **doctoral candidates** receive **an introduction** to the key aspects of good scientific practice, particularly through their graduate centres. The needs of international doctoral candidates must be taken into account in terms of both language and content.

⁹ For further recommendations, see UniWinD Publications Volume 2 (Hillenbach et al. 2014), Chapter 5.

¹⁰ Internationally, integrated Master's/PhD programmes are widespread. The requirement of a Master's degree for a doctorate is therefore unusual for many international applicants.

¹¹ Cf. introduction by Miller et al. (2022).

¹² Cf. statement by the DFG Executive Committee on the influence of generative models for text and image creation on the sciences and the DFG's funding activities (DFG 2023), SCIENCE Special Issue (2023) pp. 136-37 and OECD (2023).

- Universities must establish **rules for dealing with conflicts** between supervisors and doctoral candidates and communicate these transparently. In addition to central mediators or ombudspersons, graduate centres can act as a low-threshold contact point for those seeking advice. The staff of these centres should be trained accordingly.
- Supervision agreements and doctoral regulations should **contain provisions for the implementation of open science principles**.¹³ Graduate centres should, if necessary together with libraries or media centres, provide corresponding qualification offers for doctoral candidates.
- Universities should include new requirements for the **use of AI tools** in qualification programmes for doctoral candidates and promote the ability to use AI critically and responsibly in the research process.

5 Interdisciplinary qualification and career development during the doctorate

Interdisciplinary qualification of doctoral candidates will become even more important in the future, particularly in view of the current major transformation processes and the associated dynamic requirements of labour market inside and outside academia. Most universities have now established graduate centres for doctoral candidates, which organise an interdisciplinary qualification programme and provide advisory services. The qualification programme, which is usually optional and, in some cases, also curricular, takes into account the requirements of the diverse career options of doctorate holders within and outside academia and supports career transitions.

UniWinD recommends a future-orientated career development during the doctorate:

- The fact that over 75 % of doctorate holders work outside of universities after completing their doctorate¹⁴ should be reflected **in the multi-perspectivity** of competence objectives, workshop programmes and coaching content. Counsellors at graduate centres should be familiar with the requirements of the non-academic labour market and be in regular contact with representatives from professional practice.¹⁵
- Existing national and international **competence reference frameworks** for the various career paths should be used in the design of existing and new programmes.¹⁶
- New teaching and learning formats in the context of the **digitalisation of higher education** should be reflected in the portfolio of courses offered by universities and graduate centres, consisting of virtual, hybrid, analogue, synchronous and asynchronous courses.
- Graduate centres should develop a strategy for **dealing with commercial and AI-based qualification programmes**. This includes quality assurance mechanisms as well as making decisions on which qualification programmes should remain within the core area of responsibility of the universities in the future.

¹³ UniWinD has published a website in 2024 that provides an introduction to the topic of Open Science: <https://www.openscience.uniwind.org/>.

¹⁴ BuWiK (2025) p. 156 and Chapter B4 "Career paths of doctoral graduates".

¹⁵ Cf. the UniWinD special publications "Prospects after the doctorate. Career paths outside academia" (Kauhaus et al. 2018 and Löchte; von Schmeling 2018).

¹⁶ Cf. in particular European Commission (2023). ResearchComp. The European Competence Framework for Researchers // UniWinD Publications No. 10 (Vurgun et al. 2019) incl. competence toolbox // Ehlers et al. (2024): AIComp. future skills for a living and working world influenced by AI.

- **The crediting of teaching** (“Lehrdeputat”) in qualification programmes for doctoral candidates should be made possible in all federal states, at least to a limited extent.¹⁷
- Universities and graduate centres should establish cross-institutional **collaborations** in order to utilise existing resources more effectively. This can range from opening up existing seminars to each other to jointly designed new programmes.
- In the case of several providers¹⁸ of interdisciplinary qualifications at a university, the institutions should ensure that the various programmes are **visible** and selectable **on a common platform**.
- Universities should also provide support and counselling services **to promote the mental health** of doctoral candidates.¹⁹

6 Internationalisation of the doctorate

International co-operation is an essential feature of science and therefore also of the doctorate. The mobility of doctoral candidates is significantly higher than in undergraduate programmes.²⁰ “Germany has highly mobile doctoral candidates and is also an attractive research location for international doctoral candidates,” summarises the DAAD.²¹ At the same time, in view of the dynamics of the global labour market and the constantly increasing shortage of skilled workers, the internationalisation of the doctorate remains an indispensable cross-sectional task that ultimately affects all areas of universities. All measures should be embedded in a university-wide strategy, the implementation of which is actively supported by the university management.

UniWinD recommends with regard to incoming mobility:

- Funding opportunities and **information** on the doctorate in Germany as well as particular conditions in specific subjects, should be presented on the websites of the universities or faculties/departments **so that they are easy to find**. The graduate centres can provide support here (e.g. with process management and standardised online presentation).
- Universities should ensure that **international doctoral candidates are supported in** preparing their entry, arrival and accommodation in Germany. This requires close coordination between various institutions within the universities (International Offices, HR departments, etc.) as well as cooperation with external institutions (e.g. immigration authorities). Central contact points (e.g. **Welcome Centres**) can take over the coordination and act as access points for international doctoral candidates.

¹⁷ Cf. UniWinD Publications Volume 4 (Carmesin et al. 2014), pp. 9–10.

¹⁸ In addition to the graduate institutions, these include the personnel departments, personnel development and other institutions, e.g. for teaching qualifications.

¹⁹ UniWinD has dedicated a separate publication to this topic: See UniWinD Publications Volume 15 “Mental health in the doctoral phase: support services offered by graduate institutions” (Sachmerda-Schulz/ Huthoff 2024).

²⁰ Just under a third of the German doctoral students surveyed in the National Academics Panel Study were abroad for a research stay (outgoing). See Willige; Dölle (2021). Approx. 25 % of all enrolled doctoral students (in some subjects the proportion is higher) come to Germany from abroad (incoming). Cf. German Centre for Higher Education Research and Science Studies (2022), p. 82–87.

²¹ DAAD (2021): DAAD press release on the Nacaps special evaluation.

- Graduate centres should contribute to the creation of a **welcome culture** and a **non-discriminatory environment**, e.g. by providing contact points in the event of experiences of discrimination or conflicts.²²
- Universities should ensure that sufficient workshops in **English** are available within their **qualification portfolio**. It is also essential that German courses are offered by the relevant institutions (language centre or similar). In addition, information and networking opportunities for international doctoral candidates are recommended, for example on the **German academic system** and the **non-academic labour market in Germany**, in order to facilitate the career transition after the doctorate and to keep qualified doctoral graduates in Germany.
- Graduate centres can support the university in **professionalising the selection of international applicants** for a doctorate (e.g. through preliminary talks with prospective doctoral candidates at international fairs). Improving the selection processes generally leads to more successful doctoral degrees and less drop-outs.

UniWinD recommends with regard to outgoing mobility:

- Doctoral candidates should be made aware of the opportunities for a research stay abroad and encouraged to make one, particularly as part of their **supervision agreements**. This requires low-threshold and at the same time adequately equipped **funding instruments** in order to minimise financial hurdles. For people with caring responsibilities, shorter and possibly multiple stays abroad should also be eligible for funding, and stays abroad with family should be supported. Information on **options for independent research stays** as well as internal and external funding opportunities should be easy to find.
- For people who are unable to spend time abroad for various reasons, sufficient opportunities should be made available to experience **international research networking on campus**, e.g. through virtual collaboration.

UniWinD recommends with regard to strategic internationalisation:

- **Short formats** such as international **summer schools** or **fellow programmes** should be used as an instrument of internationalisation, as such formats are more accessible to international doctoral candidates than self-organised research stays.
- **International marketing and recruitment measures** to attract international doctoral candidates should be backed up with personnel capacity. Targeted recruitment is particularly useful in areas where a shortage of skilled labour already exists or is expected.
- **Joint doctoral programmes** with international partner universities should receive more attention. (Funding) formats such as the European Joint Doctorates, the European University Alliances or established regulations such as cotutelle procedures offer starting points for this. At the same time, it must be examined how these existing formats can be made less bureaucratic and simplified.

²² Cf. UniWinD Publications Volume 14 “Diversity and equal opportunities in graduate funding” (Bauer, J. F. et al. 2023).

7 Doctoral qualification with partner institutions

UniWinD expressly welcomes the fact that doctorates in Germany are carried out by universities in cooperation with other universities, non-university research institutions, industry and other non-academic partner institutions. These cooperations contribute to an expansion of the potential range of topics and scientific cultures, open up perspectives for gaining scientific knowledge, allow for other discourses and work contexts and enable extensive career prospects.

A statement by the UniWinD Executive Board 2019²³ provides recommendations on typical examples of such cooperative doctorates:

- Doctorates in cooperation with non-university research institutions
- Cooperative doctorates with universities of applied sciences (UAS)
- Doctorates in cooperation with partners from industry, public institutions and non-governmental organisations

Overall, it can be seen that there has been an increasing professionalisation in the aforementioned types of cooperation in the sense of a qualitative and quantitative expansion of the cooperatively supervised procedures. Prospective doctoral candidates will find different access routes and an infrastructure for academic qualifications at the respective non-university institutions. UniWinD assumes that cooperative doctoral procedures between universities and UAS in Germany will remain relevant, even if UAS already have independent rights to conduct doctorates in most federal states.²⁴

UniWinD considers it a prerequisite that the same academic quality standards apply in all these doctoral procedures and that the framework conditions, as mentioned in the previous chapters, must also be ensured.

UniWinD recommends:

- Co-operative procedures, especially those with UAS and commercial/industrial companies, should **be strategically integrated** into the doctoral culture and third-party funding planning at universities.
- Procedural regulations should be laid down in **cooperation agreements or other agreements** between the university and the partner institution.
- Promoting **practice- and application-orientated doctorates** is also promising for the permeability and transfer between science, business and other areas of society. This applies in particular to graduates of UAS who are interested in doing a doctorate, to people who are doing a doctorate at UAS and to those who are doing a doctorate while working.
- In the case of **doctorates** that are carried out **in cooperation with commercial enterprises**, i. e. where employees of companies are doing their doctorate as part of their employment relationship ("industrial doctorates"), **funding** should be ensured **that corresponds to the length of the doctorate**.

²³ UniWinD (2019) "Vielfalt durch Kooperation – Empfehlungen des UniWinD-Vorstands zu Promotionsverfahren mit Partnereinrichtungen".

²⁴ 12 out of 16 federal states will have an independent right to award doctorates for UASs by the end of 2024 (as part of a state-wide doctoral college or for individual UASs). The current CHE publication "CHECK Promotionsrecht für HAW in Deutschland" provides an overview of the regulations in the individual federal states. Cf. Müller (2025).

- Universities should **proactively** present the various **access routes** to cooperative doctorates with institutional partners and thus establish a **welcome culture** for all doctoral candidates.

References and recommended literature

- Bahr, A., K. Eichhorn, S. Kubon, #IchBinHanna, Prekäre Wissenschaft in Deutschland (edition suhrkamp Sonderdruck), Berlin 2022.
- Bauer, J. F., D. Ebersberger, S. Elpers, S. Groth, A.-K. Kolwes, B. Korkowsky, K. Lange, J. Müller, H. Schürenberg-Frosch, C. Wolfermann: Vielfalt und Chancengerechtigkeit in der Graduiertenförderung – Wissenschaftler*innen in Qualifizierungsphasen diversitätssensibel begleiten, UniWinD-Publikationen Band 14, Jena 2023. https://www.uniwind.org/fileadmin/user_upload/Publikationen/2023-Band-14-Web-20230905-1110.pdf, 09.12.2024.
- Berroth, L., D. Adrian, K. Briedis, A. Wegner: Beschäftigungsbedingungen für junge Forscher*innen – ein empirischer Beitrag zu #IchBinHanna, 2022. https://doi.org/10.34878/2022.04.dzhw_brief, 28.4.2025.
- Bundesministerium für Bildung und Forschung, Wissenschaftszeitvertragsgesetz. https://www.bmbf.de/DE/Forschung/Wissenschaftssystem/WissenschaftlicheKarriere/Wissenschaftszeitvertragsgesetz/wissenschaftszeitvertragsgesetz_node.html, 28.4.2025.
- Budde, J., J. Tobor, J. Friedrich: Künstliche Intelligenz. Wo stehen die deutschen Hochschulen?, Berlin 2024. https://hochschulforumdigitalisierung.de/wp-content/uploads/2024/06/HFD_Blickpunkt_KI_Monitor.pdf, 09.12.2024.
- Burkhardt, A., G. Quaißer, B. Schnalzger, C. Schubert, Förderlandschaft und Promotionsformen: Studie im Rahmen des Bundesberichts Wissenschaftlicher Nachwuchs (BuWiN) 2017, Halle 2016. https://www.hof.uni-halle.de/web/dateien/pdf/ab_102.pdf, 09.12.2024.
- Carmesin, B., U. Hoffmann, G. Huskobla, S. Huster, J.-A. Küster, J. Neumann, S. Wegener-Feldbrügge, Betreuung Promovierender: Empfehlungen und Good Practice für Universitäten und Betreuende, UniWinD-Publikationen Band 4, 2. Auflage, Jena 2017. https://www.uniwind.org/fileadmin/user_upload/Publikationen/2017-UniWiND_Bd4_2_Auflage.pdf, 09.12.2024.
- Council for Doctoral Education (EUA-CDE), SURVEY: Doctoral education in Europe today: approaches and institutional structures, Geneva 2019. <https://www.eua.eu/downloads/publications/online%20eua%20cde%20survey%2016.01.2019.pdf>, 09.12.2024.
- Council for Doctoral Education (EUA-CDE), Building the Foundations of Research: A Vision for the Future of Doctoral Education in Europe, Geneva 2022 a. https://www.eua.eu/downloads/publications/web_cde_position%20paper_june%202022_fin2.pdf, 09.12.2024.
- Council for Doctoral Education (EUA-CDE), Co-tutelles in European universities: concept, aims and implementation: EUA-CDE Thematic Peer Group Report, Geneva 2022b. https://eua-cde.org/downloads/publications/eua_cde_tpg_fin2.pdf, 09.12.2024.
- Council of the European Union, COUNCIL RECOMMENDATION on a European framework to attract and retain research, innovation and entrepreneurial talents in Europe. <https://data.consilium.europa.eu/doc/document/ST-15135-2023-REV-1/en/pdf>, 09.12.2024.
- Deutscher Akademischer Austauschdienst e. V., NACAPS-SONDERAUSWERTUNG: Wie international ist die Promotion in Deutschland?: Pressemitteilung, 2021. <https://www.daad.de/de/der-daad/kommunikation-publikationen/presse/pressemitteilungen/internationalitaet-promotion/>, 09.12.2024.
- Deutsche Forschungsgemeinschaft e. V., Prinzipien wirksamer Karriereunterstützung in der Wissenschaft, Bonn 2021. <https://www.dfg.de/resource/blob/174814/d0301c421ec02a260347fa5093c46172/prinzipien-karriereunterstuetzung-data.pdf>, 09.12.2024.
- Deutsche Forschungsgemeinschaft e. V., Kodex – Leitlinien zur Sicherung guter wissenschaftlicher Praxis. Korrigierte PDF-Version. <https://doi.org/10.5281/ZENODO.3923601>, 09.12.2024.
- Deutsche Forschungsgemeinschaft e. V., Stellungnahme des Präsidiums der Deutschen Forschungsgemeinschaft (DFG) zum Einfluss generativer Modelle für die Text- und Bilderstellung auf die Wissenschaften und das Förderhandeln der DFG, 2023. <https://www.dfg.de/resource/blob/289674/ff57cf46c5ca109cb18533b21fba49bd/230921-stellungnahme-praesidium-ki-ai-data.pdf>, 09.12.2024.
- Deutsche Forschungsgemeinschaft e. V., Hinweise zur Bezahlung von Promovierenden: DFG-Vordruck 55.02-10/24, 2024. <https://www.dfg.de/resource/blob/168400/54ab261a59d480702e240bdf56329ace/55-02-de-data.pdf>, 09.12.2024.

Die Junge Akademie, Internationalisierung im Fokus: Innenansichten aus dem deutschen Wissenschaftssystem: Ein Debattenbeitrag von Anna L. Ahlers, Jan Hennings, Fabian Schmidt mit Kommentaren von Max Amann, Valerie Domcke, Valeska Huber, Jakob Lehnig, Joachim Sauer und Rudolf Stichweh, 2023. https://www.diejungeakademie.de/media/pages/publikationen/internationalisierung-im-fokus/614e35ae01-1700660733/dja_debattenbeitrag_internationalisierung-im-fokus_a5_screen.pdf, 09.12.2024.

Dittmar, L., F. Echtermeyer, M. Gessler, S. Gronewold, U. Kessen, K. Klempahn, S. Kruse, M. Kühl, H. Mayrhofer, K. Moll, I. Montero, C. Oswald, J. Petersen, A. Shavinskaya, N. Zingler, Qualitätssicherung in der medizinischen Promotion, UniWinD-Publikationen Band 11, Jena 2020. https://www.uniwind.org/fileadmin/user_upload/Publikationen/UniWiND-Band-11-Web.pdf, 09.12.2024.

Deutsches Zentrum für Hochschul- und Wissenschaftsforschung GmbH, Datenportal der National Academics Panel Study. <https://nacaps-datenportal.de/>, 09.12.2024.

Deutsches Zentrum für Hochschul- und Wissenschaftsforschung GmbH, Deutscher Akademischer Austauschdienst e. V., Wissenschaft weltoffen 2022: Daten und Fakten zur Internationalität von Studium und Forschung in Deutschland, Bielefeld 2022. https://www.wissenschaft-weltoffen.de/content/uploads/2022/10/wiwe_2022_web_de.pdf, 09.12.2024.

Ehlers, U.-D., M. Lindner, E. Rauch, AIComp: Future Skills für eine von KI beeinflusste Lebens- und Arbeitswelt, Karlsruhe 2024. https://next-education.org/downloads/2024-03-19-AIComp-Part_2_-_Kompetenzmodell-final-web.pdf, 09.12.2024.

European Commission, ResearchComp: The European Competence Framework for Researchers: Tool to assess and develop researchers' transferable skills and foster career development. https://research-and-innovation.ec.europa.eu/jobs-research/researchcomp-european-competence-framework-researchers_en, 09.12.2024.

European Commission: Directorate-General for Education, Youth, Sport and Culture, Marie Skłodowska-Curie actions – Supervision guidelines, Publications Office of the European Union, 2025, <https://data.europa.eu/doi/10.2766/2033301>. 09.04.2025.

European University Association (EUA), Salzburg II Recommendations, European Universities' Achievements since 2005 in Implementing the Salzburg Principles, 2010, <https://www.eua.eu/publications/positions/salzburg-ii-recommendations.html>, 09.12.2024.

Gewerkschaft Erziehung und Wissenschaft, Für einen einheitlichen Status und gleichberechtigte demokratische Teilhabe von Promovierenden an deutschen Hochschulen: Positionspapier der Projektgruppe DoktorandInnen der GEW. https://www.gew.de/fileadmin/media/sonstige_downloads/hv/Hochschule_und_Forschung/Positionspapier/Einheitlicher_Status_Positionspapier.pdf, 09.12.2024.

Hillenbach, A.-K., M. Hacke, M. Schlegel, B. Witter, Empfehlungen für den Übergang von der Master- in die Promotionsphase, UniWinD-Publikationen Band 2, Jena 2014. https://www.uniwind.org/fileadmin/user_upload/Publikationen/UniWiND_Pub_Bd2_web.pdf, 09.12.2024.

Hillenbrand, H., C. Leysinger, LERU's view on holistic doctoral supervision, Leuven 2023. https://www.leru.org/files/Publications/2023.02.28_LERU-view-holistic-Doctoral-Supervision-full-paper.pdf, 09.12.2024.

Hochschulrektorenkonferenz, Zur Qualitätssicherung in Promotionsverfahren: Empfehlung des Präsidiums der HRK an die promotionsberechtigten Hochschulen, 2012. https://www.hrk.de/uploads/tx_szconvention/Empfehlung_Qualitaetssicherung_Promotion_23042012.pdf, 09.12.2024.

Kauhaus, H., A. Bergmann, H. Ehrhardt, M. Eulitz, P. Körfgen, I. Ludewig, V. Lukassen, N. Pippel, C. Reinisch, M. Sander, A. Stephan, Perspektiven nach der Promotion: Teil 1 – Berufswege außerhalb der Wissenschaft: 13 Portraits, UniWinD-Spezial, Jena 2018. https://www.uniwind.org/fileadmin/user_upload/Publikationen/1UniWiND-Spezial_final_online.pdf, 09.12.2024.

Knaut, S., B. Lehmann, T. Manning, M. Mayer, J. Schmitt, Vielfalt erhalten – Verbindlichkeit schaffen: Empfehlungen für einen einheitlichen Doktorandenstatus an deutschen Universitäten, UniWinD-Publikationen Band 1, Jena 2014. https://www.uniwind.org/fileadmin/user_upload/Publikationen/UniWiND_Pub_Bd1_web.pdf, 09.12.2024.

Konsortium Bundesbericht Wissenschaftlicher Nachwuch, Bundesbericht Wissenschaftlicher Nachwuch (BuWiN) 2021: Statistische Daten und Forschungsbefunde zu Promovierenden und Promovierten in Deutschland, W. Bertelsmann Verlag, Bielefeld 2021. <https://www.buwin.de/>, 09.12.2024.

Konsortium BuWiK, BuWiK 2025, Bundesbericht Wissenschaftlerinnen und Wissenschaftler in frühen Karrierephasen: Statistische Daten und Forschungsbefunde zu Promovierenden und Promovierten in Deutschland, W. Bertelsmann Verlag, Bielefeld 2025, <https://buwik.de/>, 09.04.2025.

Müller, Ulrich, CHECK Promotionsrecht für HAW in Deutschland Stand 2025, Gütersloh, CHE, 2025, <https://www.che.de/download/check-promotionsrecht-haw-2025/>, 09.04.2025.

Land Baden-Württemberg, Gesetz über die Hochschulen in Baden-Württemberg: Landeshochschulgesetz – LHG 23.11.2024. <https://www.landesrecht-bw.de/bsbw/document/jlr-HSchulGBWV35IVZ>, 09.12.2024.

Löchte, A., R. von Schmeling, Perspektiven nach der Promotion: Teil 2 – Berufswege außerhalb der Wissenschaft: Arbeitgeber im Gespräch, UniWinD-Spezial, Jena 2018. https://www.uniwind.org/fileadmin/user_upload/Publikationen/2UniWiND-Spezial_final_online.pdf, 09.12.2024.

Miller, K., M. Valeva u. J. Prieß-Buchheit (Hg.), Verlässliche Wissenschaft: Bedingungen, Analysen, Reflexionen, Darmstadt 2022. <https://directory.doabooks.org/handle/20.500.12854/94438>, 09.12.2024.

OECD, Artificial Intelligence in Science: Challenges, Opportunities and the Future of Research, Paris 2023. https://www.oecd.org/en/publications/artificial-intelligence-in-science_a8d820bd-en.html, 09.12.2024.

Pasternack, P., Partizipation an Hochschulen: Zwischen Legitimität und Hochschulrecht, Wittenberg 2020. <https://www.hof.uni-halle.de/web/dateien/pdf/HoF-Handreichungen12.pdf>, 09.12.2024.

Sachmerda-Schulz, N., H. Huthoff: Mentale Gesundheit in der Promotionsphase: Unterstützungsangebote von Graduierteneinrichtungen, UniWinD-Publikationen Band 15, Jena 2024. https://www.uniwind.org/fileadmin/user_upload/Publikationen/2024-UniWiND-Band-15-Web-ES.pdf, 09.12.2024.

SCIENCE Special Issue: A machine-intelligent world: Finding a place for AI in science and society. 2023 <https://doi.org/10.1126/science.adj4843>, 09.12.2024.

Universitätsverband zur Qualifizierung des wissenschaftlichen Nachwuchses in Deutschland e. V. (UniWinD), Junge Forscherinnen und Forscher – Empfehlungen zur Promotion an deutschen Universitäten, Freiburg i.Br. 2011. https://www.uniwind.org/fileadmin/user_upload/Stellungnahmen_Positionen/Positionspapier_2011.pdf, 09.12.2024.

Universitätsverband zur Qualifizierung des wissenschaftlichen Nachwuchses in Deutschland e. V. (UniWinD), Vielfalt durch Kooperation – Empfehlungen des UniWinD-Vorstands zu Promotionsverfahren mit Partnereinrichtungen, Jena 2019. https://www.uniwind.org/fileadmin/user_upload/Stellungnahmen_Positionen/2019-UniWiND_Promotionsverfahren_mit_Partneereinrichtungen.pdf, 09.12.2024.

Vurgun, S., C. Dumpitak, A. Adams, D. Husmann, C. Kissling, B. Nickels, K. Schölzig, C. Schuchert, V. Vasilov, Kompetenzentwicklung von Nachwuchswissenschaftlerinnen und Nachwuchswissenschaftlern: Fördern und Entwickeln, UniWinD-Publikationen Band 10, Jena 2019. https://www.uniwind.org/fileadmin/user_upload/Publikationen/2019-UniWiND_Bd10_web.pdf, 09.12.2024.

Wegner, A., Die Finanzierungs- und Beschäftigungssituation Promovierender: Aktuelle Ergebnisse der National Academics Panel Study, Hannover 2020. https://www.dzhw.eu/pdf/pub_brief/dzhw_brief_04_2020.pdf, 09.12.2024.

Willige, J., F. Dölle, Internationalität der Promotion in Deutschland: Eine Analyse auf Basis der „National Academics Panel Study“ (Nacaps), 1. Welle, Hannover 2021. https://www.dzhw.eu/pdf/ab_20/internationalitaet_der_promotion_dzhw_daad.pdf, 09.12.2024. Wissenschaftsrat, Empfehlungen zu forschungs- und lehrförderlichen Strukturen in der Universitätsmedizin, Berlin 2004. https://www.wissenschaftsrat.de/download/archiv/5913-04.pdf?__blob=publicationFile&v=2, 09.12.2024.

Wissenschaftsrat, Empfehlungen zur Internationalisierung von Hochschulen, München 2018. https://www.wissenschaftsrat.de/download/archiv/7118-18.pdf?__blob=publicationFile&v=3, 09.12.2024.

Wissenschaftsrat, Ausgestaltung der Promotion im deutschen Wissenschaftssystem: Positionspapier, Köln 2023. https://www.wissenschaftsrat.de/download/2023/1196-23.pdf?__blob=publicationFile&v=18, 09.12.2024.

