



University of
Zurich^{UZH}

Graduate Campus

A photograph of a broken almond shell on a blue background. A small white paper slip is placed inside the shell, containing the text: 'Ich wünsche mir, dass meine Forschung von einer breiten Öffentlichkeit wahrgenommen wird (Doktorandin)'.

Ich wünsche mir, dass meine Forschung von
einer breiten Öffentlichkeit wahrgenommen
wird (Doktorandin)

**Best Practice for Doctoral Education
at the University of Zurich**



Graduate Campus

Best Practice for Doctoral Education at the University of Zurich

This document shows ways and possibilities to strengthen the quality, attractiveness and internationalization of the doctorate at UZH; it is aimed at all those who are involved in shaping the doctoral level in a position of responsibility and at junior researchers.

UZH is committed to targeted funding measures so that junior researchers can develop into independent, creative, critical researchers at an early stage. The following best practice recommendations are designed to achieve this goal. They are based on the experience and practice of doctoral programs at UZH, on the various policy papers adopted by the EUA and LERU on doctoral education, as well as on the results of institutional exchanges within the framework of the LERU Doctoral Studies Community and the corresponding Universitas 21 network. Relevant specialist literature has also been consulted.

The recommendations refer to quality aspects of general validity and leave sufficient room for the consideration of technical and cultural aspects. The respective ordinance of the faculties on obtaining a doctoral degree is legally binding.



Ich wünsche mir eine stärkere Förderung des
interdisziplinären Austauschs von
Doktorierenden und Postdocs (Postdoc)

*"I would like to see greater support for
the interdisciplinary exchange of
PhD candidates and postdocs" (postdoc).*

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Cover title:
“I hope that my research will reach a broad public”
(postdoc).

Illustrations:
The photographs in this guide present the wishes of doctoral candidates and postdocs that were distributed to decision-makers in higher education policy and participants of a panel discussion. Concept: Katharina Weikl, Graduate Campus.

1. Recruiting doctoral candidates

Attracting the most talented candidates for excellent and innovative research

- Recruitment is a process designed to attract the most promising candidates. It takes place through doctoral programs, graduate schools and/or by at least two members of a research group or research area.

“In many countries, the admission has become a collective responsibility and a regulated aspect of the doctoral programs. The days of the individual professor who decides about the acceptance of a candidate have come to an end” (Sonneveld 2016: 4).

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- PhD and assistant positions are advertised as internationally as possible (on the usual platforms of the respective discipline as well as on the internal job platform of UZH). The following points are clearly formulated in the announcement text: 1) thematic focus of the dissertation project, 2) employment situation, 3) doctoral studies (curricular part), 4) teaching activities, 5) selection criteria, 6) prerequisites for an application. It is useful to request a sample of the applicant’s writing, e.g. a short summary of initial ideas for the planned project.
- The selection procedure is structured, competitive and transparent and is based on clearly defined criteria. The principle of equal opportunity is to be taken into account in the announcement of doctoral positions and in the application procedure in order to promote applications from underrepresented groups. Those involved in the selection of doctoral candidates are familiar with interviewing methods.

“To ensure quality of PhD programmes, PhD candidates should be selected on the basis of a competitive and transparent process” (ORPHEUS & AMSE 2016: 10).

(...) recruitment policies could take into account criteria such as international recruitment, gender equality, social background or different age groups” (EUA 2010: 5).

2. Supervision

Mutual commitment for a high-quality culture of supervision

- Doctoral programs, graduate schools and institutes define the maximum number of doctoral candidates per supervisor and develop suitable measures to ensure that this is adhered to.

“The number of PhD candidates per supervisor should be compatible with the supervisor’s cumulative workload” (ORPHEUS & AMSE 2016: 12).

- Each doctoral candidate is accompanied and supervised by a supervising team, consisting of at least two members with the right to award a PhD at the respective faculty. Further internal or external persons should be involved, depending on the ordinance on obtaining a doctoral degree. The supervising team should be brought together in such a way as to facilitate content-related and methodological or interdisciplinary synergies. The tasks, responsibilities and rights of the doctoral candidate and the supervising team must be clarified at an early stage and laid down in the doctoral agreement (see below).

“Supervision must be a collective effort with clearly defined and written responsibilities of the main supervisor, supervisory team, doctoral candidate, doctoral school, research group and the institution, leaving room for the individual development of the doctoral candidate” (EUA 2010: 5).

“The supervisory team and doctoral candidate need to be prepared for high levels of collaboration and commit to regular meetings involving the whole team, with each supervisor bringing complementary, discipline-based experience and networks to the project” (Taylor et al. 2018: 42).

- The supervising team meets at least once a year. The results of the meeting are recorded in a short protocol, or the doctoral agreement is updated. This document is then sent to the program coordinator or the relevant faculty office.
- The doctoral programs or graduate schools inform their program members (doctoral candidates and supervisors) about regulations that affect doctoral education in general (e.g. ordinance on obtaining a doctoral degree of the respective faculty or general outline of rights and responsibilities) and about program-specific regulations and structures.
- Courses on good supervision are obligatory. Continuing training courses for supervisors and potential supervisors are offered centrally at UZH as well as through doctoral programs and graduate schools.

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Part of Salzburg Principle 5: *“Providing professional development to supervisors is an institutional responsibility, whether organised through formal training or informal sharing of experiences among staff. Developing a common supervision culture shared by supervisors, doctoral school leaders and doctoral candidates must be a priority for doctoral schools. Supervisors must be active researchers”* (EUA 2010: 5).

Practice at KU Leuven: *“To improve the quality of supervision, new principal investigators (PIs) are given an introductory course composed of three parts: 1) regulations and procedures, scientific integrity and the Doctoral School, 2) management and leadership, and 3) HR skills for recruitment and supervision in professional development of doctoral students”* (LERU 2016: 15).

Taylor et al. (2018: 31) emphasize *“(...) the importance of supervisors being aware of the institutional framework within which they are operating in terms of standards, expectations, eligibility and support. Often, these matters are covered in induction or initial professional development workshops for new supervisors (...)”*.

- Supervisors regularly provide constructive feedback and also express clear concerns if the doctoral candidate’s performance does not meet their expectations.
- Supervisors are responsible for teaching good scientific practice and, together with the doctoral candidates, they are responsible for adhering to this practice.

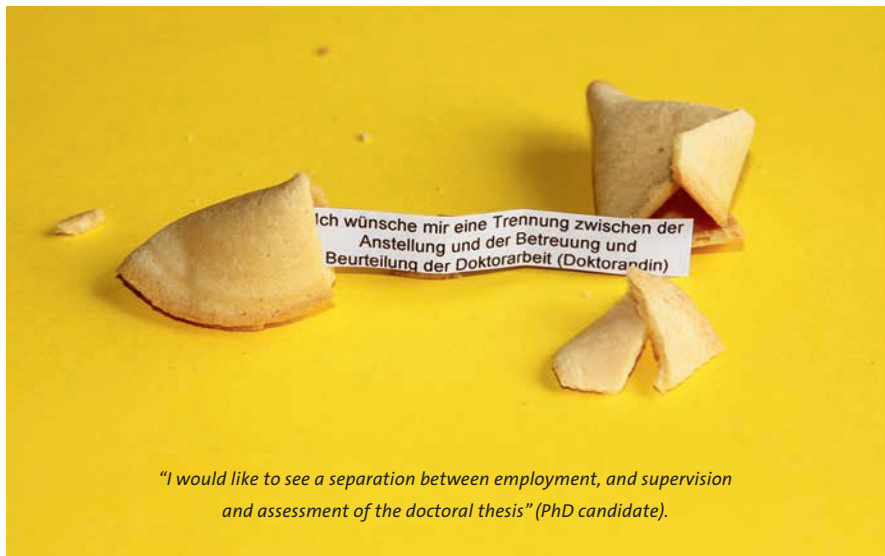
Best Practice

- The supervising team supports doctoral candidates on their career path, especially in deciding whether or not to further pursue an academic career.
- The main supervisors are professors as well as experienced group leaders or postdocs (if this is provided for by the ordinance on obtaining a doctoral degree).
- Meetings between the doctoral candidate and the main supervisor are held regularly.

“Supervisors should have regular consultations with their candidates. (...) The term ‘regular consultations’ will normally mean at minimum several times per month, but frequency will vary during the course of the programme according to the requirements of the individual PhD candidate” (ORPHEUS & AMSE 2016: 12).

“International candidates may, in common with domestic ones from nontraditional backgrounds, be vulnerable to isolation, deficient in role models, and subject to discrimination. (...). Also, international candidates are more likely to face additional challenges arising from moving countries, including culture and study shock” (e.g. different expectations of academic roles, different thinking and learning styles, lack of previous experience of research, verbal and written communication) (Taylor et al. 2018: 189-197).

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3. Supervision agreement

Clearly defined responsibilities and duties act as guidelines during the doctoral training

- At the beginning of the doctorate, the doctoral candidate and the members of the supervising team conclude a supervision agreement. A copy of the agreement is sent to the relevant faculty and/or program coordinator. In addition to the tasks, rights and duties of the involved parties, the following points should be defined in the agreement:

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- topic and procedure of the dissertation work
- type of dissertation (monograph or cumulative dissertation)
- time frame
- milestones
- scope of supervision and matching of mutual expectations
- required curricular achievements
- planned tasks in teaching, in accordance with the applicable outline of rights and responsibilities
- frequency of meetings of the supervising team
- frequency of progress reports and agreement on timely feedback
- commitment to good scientific practice.

The supervision agreement is reviewed and updated at least once a year in a joint discussion. It shall be sent to the program coordinator and/or the respective faculty office. These offices regularly monitor the timely submission of the updated supervision agreement.

Practice at Lund University: "In Sweden it is mandatory according to the Higher Education Ordinance act to ensure that an individual study plan is made for each doctoral candidate. This plan shall contain the undertakings made by the candidate and the higher education institution and a timetable for the doctoral candidate's studies. [...]The individual study plan is reviewed regularly" (LERU 2016: 13).

- Doctoral candidates generally participate in teaching on Bachelor and Master level. The maximum number of invested hours is specified in the supervision agreement and is in accordance with the individual or general outline of rights and responsibilities.

4. Doctoral programs and graduate schools

A supportive and empowering research environment which prepares PhD candidates for a wide range of careers

- Doctoral programs, PhD subjects and graduate schools foster the skills of doctoral candidates, enabling them to work as qualified, responsible and independent scientists and scholars within or outside academia.

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“Doctoral education must be embedded in a strong research environment and culture to ensure that the opportunities for cross-fertilisation between disciplines can foster the necessary breadth and interdisciplinarity. For this reason we believe that doctoral education is best undertaken in research-intensive institutions or in partnerships where the benefits of a wide range of research activities can be exploited” (LERU 2010: 4).

- Through doctoral programs, a critical mass of doctoral candidates and supervisors can be achieved even in rather small subjects. Synergies with other doctoral programs and activities are fostered.

Salzburg Principle 6: “Achieving critical mass: Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities” (EUA 2010: 4).

- Doctoral programs, PhD subjects and graduate schools provide a curriculum consisting of both subject-specific and interdisciplinary events. Courses on good scientific practice are an integral part of the curriculum.


“Doctoral programmes bring together cohorts of candidates and include elements of professional development training, regular involvement in activities of research groups such as seminars and journal clubs, teaching, sometimes also technical courses” (LERU 2014: 5).

“PhD programmes should ensure that candidates have appropriate training in the rules concerning ethics and responsible conduct in research” (ORPHEUS & AMSE 2016: 11).

- Colloquia are held regularly as part of the doctorate. All doctoral candidates should report on the results of their dissertation project at least once a year at the colloquium. The presentation of the dissertation at a colloquium, which is headed by professors, serves quality assurance purposes.

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- The curricular part of the doctorate should be completed within three years.
- UZH strives to ensure that the same quality standards apply to all doctoral candidates. The aim is to ensure that doctoral candidates pursuing an individual doctorate can also carry out their dissertation project according to the standards of structured programs.
- Doctoral candidates are appropriately integrated into the executive committees of the doctoral programs, for example as representatives of the doctoral candidates within a program with the right to vote.
- Doctoral programs and graduate schools strive to implement an effective monitoring or career tracking system of their graduates.



Ich wünsche mir mehr Zeit & Raum für
den Austausch mit KommilitonInnen aus
anderen Fächern (Doktorand)

*"I wish for more time & space for
exchange with fellow researchers from
other subject areas" (PhD candidate).*

5. Culture of quality

Evaluation and consultation strengthen quality culture

- Doctoral candidates and supervisors regularly evaluate the program and the supervisory situation.
- Doctoral programs and graduate schools are regularly evaluated by external, independent experts. Funding from the Quality Assurance and Development funding line can be applied for through the Graduate Campus.

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Practice at the University of Auckland: “All doctoral students are encouraged to complete the exit survey on submission of their thesis; (...). The process of surveying students facilitates closer examination of the student - supervisor working relationship and the student’s perception of their supervision experience” (Carton n.d.: 5).

- Faculties ensure that there are suitable contact points for doctoral candidates and supervisors in cases of conflict. UZH has an independent counseling and mediation office.
- Graduate Campus provides information on the various contact points.
- Graduate Campus offers low-threshold support for PhD candidates and postdocs.

There should be “(...) clearly specified procedures for students to change supervisor within the department” (Delamont et al. 2004: 187).

Practice at KU Leuven: “(...) both advisor and student are asked at several moments during the doctorate to fill out a short survey about the PhD-advisor relation. If problems are identified, the ombudsperson will contact the student proactively” (LERU 2016: 15-16).

6. Evaluation of the dissertation

Involvement of independent experts reduces bias and dependency

- To ensure the quality of the doctoral process, an evaluation of the dissertation according to quality standards valid in the respective scientific community has to be included, which is independent of the supervision. An expert opinion should be prepared by an external expert.

“The assessment committee should consist of established and active scientists who are without direct connection to the milieu where the PhD was performed, and without any conflict of interest, and including individuals from another institution” (BR7.3) (ORPHEUS & AMSE 2016: 14).

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- The separation of the supervision and assessment of the dissertation serves quality assurance purposes.

“To avoid conflict of interest the supervisor should not be a member of the assessment committee” (BR7.4) (ORPHEUS & AMSE 2016: 14).

- A distribution group, comprised for example of professors and postdocs of an institute/program, comment on the dissertation and make recommendations. This practice contributes to a harmonization of the evaluation criteria and standards.
- The PhD defense is open to the public. (The respective ordinance on obtaining a doctoral degree applies.)

“The doctorate is examined by a panel of international experts. [...] The defence is held [...] by two examiners, one external to the University and one internal. The examiners must be independent of the candidate and have had no involvement in the project or collaborate with the supervisor or candidate to ensure there is no conflict of interest. The supervisor may be present but only if permitted to be there by the candidate” (LERU 2016: 12).

7. Funding and employment

Secured funding and suitable employment in order to complete quality work quickly and at a high level

- All PhD candidates have a secure position or a fellowship for the duration of their doctoral project, which is based on the financial and time requirements of the SNSF (Swiss National Science Foundation).

- The transitions from one qualification phase to the next are anticipated and supported.

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- The compatibility of family and career is made possible by UZH. For example, UZH offers flexible childcare near UZH workplaces.

- The individual or general outline of rights and responsibilities is explained at the beginning of employment. The regulations regarding protected time for doctoral candidates and assistants are observed.

- If doctoral candidates are working alongside their doctorate, this must be declared accordingly.

8. Mentoring and career development

Measures for independent research and a successful career

- Doctoral programs, graduate schools and professors highlight the wide range of possible career opportunities for doctoral graduates including alternative paths to an academic career.

Public Scholars Initiative of the University of British Columbia: *“Provide more career information and experience, affirm non-academic pathways”* (Peker et al. 2017: 4).

“Highlighting the wide range of possible career opportunities for doctoral graduates to our candidates is a very important part of any doctoral programme. It is also important that candidates are supported in identifying and developing the skills they may need for the options they seek to follow” (LERU 2014: 16).

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- Doctoral candidates involved in teaching take part in at least one course of the Center for University Teaching and Learning. Specific didactic courses can also be attended by doctoral candidates in a doctoral program.

“(…) it is helpful to arrange classes on teaching (perhaps even the opportunity to do a diploma or certificate in teaching)” (Delamont et al. 2004: 192).

- Courses in transferable skills offered by Graduate Campus enable doctoral candidates to acquire key competences which prepare them for an academic as well as non-academic career.

“The development of generic/transferable skills is fundamental to best practice doctoral training. Candidates undertake doctorates as preparation for a wide range of careers that require diverse skills in addition to the capacity to undertake independent research” (Marsh & Lamprecht 2012: 8).

- The development of a mentoring system is recommended. At the beginning of a dissertation project, a person further ahead with his or her dissertation can take on the role of the mentor to support the doctoral candidate in the course of the project.

Towards the end of the dissertation, the doctoral candidate's next career step should be in focus. For this phase it is recommended that advanced researchers and/or alumni act as mentors. Mentoring is also intended to promote the independence and autonomy of young researchers.

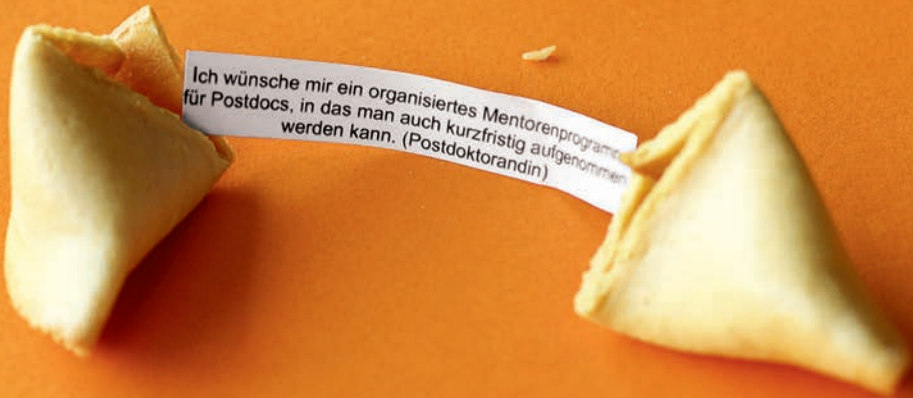
“Graduate schools ought to consider appointing a mentor or equivalent for each PhD candidate, in addition to the supervisor team, to discuss programmes from another aspect than the science topic alone” (ORPHEUS & AMSE 2016: 12).

- Postdocs are involved as supervisors and mentors. This allows them to gain first supervisory experience.
 - Doctoral programs and graduate schools maintain contact with alumni to facilitate networking between doctoral candidates and alumni.
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- The involvement of doctoral candidates in national and international networks is promoted by supporting participation in scientific conferences as well as research stays abroad (mobility).
 - Interdisciplinary exchange and networking with non-university institutions should be made possible.

Salzburg Principle No. 9: “Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners” (EUA 2010: 4).

“Through conferences and other professional activities doctoral candidates should make links with society beyond academia to seek fresh ideas for their research, to develop ways of communicating their ideas and results, and their significance, to a wide variety of audiences, and to develop broader career perspectives” (LERU 2010: 8-9).

“Supervisors ought to have broad local and international scientific networks to be able to introduce the PhD candidate into the scientific community” (ORPHEUS & AMSE 2016: 12).



Ich wünsche mir ein organisiertes Mentorenprogramm
für Postdocs, in das man auch kurzfristig aufgenommen
werden kann. (Postdotorandin)

*"I would like to see an organized mentoring program
for postdocs, in which you can also be accepted
at short notice" (postdoc).*

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A photograph of a broken almond shell on a blue background. The shell is cracked open, and a small, rectangular piece of white paper is tucked inside. The paper has German text written on it. The background is a solid, vibrant blue color. There are several small pieces of almond shell scattered around the main broken piece.

Ich wünsche mir mehr Möglichkeiten, meine
Forschung einem fachfremden Publikum zu
präsentieren (Postdoc)

*"I would like to have more opportunities to present my
research to an audience that is not familiar with
the subject" (postdoc).*

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