Introduction

Doctoral research is a primary source of new knowledge for the innovation systems in Europe. In Luxembourg, doctoral research is relatively recent and is mainly anchored at the University of Luxembourg and the public research centres. Over the last decade, these institutions have continuously improved the quality of their doctoral training.

The FNR enhances this development by defining, in collaboration with its partners, a framework of quality standards for doctorates funded through its instruments. The framework fully aligns with the principles defined in the European Charter for Researchers and the Code of Conduct for their recruitment and is guided by the following objectives:

- Luxembourg needs to become attractive for the best candidates of Europe and worldwide;
- PhD candidates will be trained by doing original, hands-on research according to the highest international standards;
- PhD candidates will learn skills for a professional life as creative, critical and autonomous intellectual risk takers.

The present document formulates the FNR’s expectations with respect to the management, quality and academic standards of the training of FNR-funded PhD candidates. The implementation of the principles defined in the quality framework will be monitored through external assessment.

Beyond the quality framework, the FNR encourages institutions to consider innovative approaches to structured doctoral training stimulated by international good practice.

Definitions:

- **Doctoral training**: comprises the educational programme offered in the framework of the doctorate and the research project leading to the doctoral degree.
- **Institutions**: refers to both PhD awarding institutions as well as research institutions.
- **PhD awarding institutions**: higher education institutions awarding the PhD degree and officially responsible for the verification of academic standards of doctoral training.
- **Research institutions**: institutions where research projects leading to a PhD degree are carried out.
Doctoral Research Environment and Management

- Institutions ensure that the doctoral training is performed in a research environment appropriate to the PhD project, providing access to adequate research facilities, access to research documentation and suitable possibilities to exchange with other researchers and with the research community as a whole.

- Institutions have in place adequate quality control procedures, foreseeing regular review and updating of the structure, management and quality of their doctoral training.

Recruitment and Admission into Doctoral Training

- Institutions have in place a strategy and deploy adequate means in order to recruit suitable doctoral candidates, giving due consideration to gender balance.

- PhD candidates are admitted into doctoral training on the basis of a transparent and merit-based recruitment process, which is openly communicated and applied consistently.

- Institutions have set up a framework to evaluate and approve the following points:
  - the scientific quality of the research project to be performed by the PhD candidate,
  - whether the project is feasible within a reasonable time frame (3-4 years full time equivalent),
  - the academic ability and research potential of the PhD candidate,
  - the thematic fit and the qualifications of the nominated supervisor(s).

- A supervision agreement is established between the PhD candidate and all members of the supervisory team. The agreement is written in a language comprehensible to the candidate, the supervisors and the institution and covers the following:
  - Aims and objectives of the doctoral research project;
  - Rights and duties of the doctoral candidate, including teaching activities;
  - Supervision support: main person(s) involved and their role(s)/responsibility(ies); organisation of the supervision;
  - Monitoring of progress;
  - Publication and dissemination plan;
  - Training plan for the candidate, based on a needs analysis.
  
  The supervision agreement is reviewed at regular intervals.

Supervision

- Institutions have in place guidelines for supervision, providing practical information on the formal and informal arrangements that may guide the PhD candidate and the supervisor(s) during the various stages of the PhD trajectory.

- Institutions ascertain that all persons in charge of the supervision are scientifically qualified in the concerned field and have relevant supervision competences. The supervisors must hold a PhD degree and be active scholars with a steady scientific production.

- Institutions ensure that training in supervision is available for all supervisors and potential supervisors.

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- Institutions have in place a procedure to mediate in situations of conflict, when stipulations of the supervision agreement are not respected.

- If a main supervisor is not able to continue supervising the PhD candidate, institutions ensure that adequate measures are taken to allow the good continuation of the PhD.

- Institutions have in place a procedure to evaluate supervisors and the supervision environment.

- Institutions ensure that training in supervision is available for all supervisors and potential supervisors.
Skills Training and Professional Development

- All PhD candidates have access to structured doctoral training (scientific and transferable skills training). This may be organised in the frame of a doctoral school or, if not possible, on the basis of an individualised training programme.

- Institutions provide PhD candidates with appropriate opportunities for professional development and career orientation.

- Institutions enable and valorise teaching activities by PhD candidates. Teaching tasks should however not be excessive, creating conflict with the good continuation of the PhD project.

- Institutions encourage the participation in outreach activities of PhD candidates as a valuable asset for their career development.

Dissemination

- Results of a PhD project are communicated to the research community according to the methods and standards of the research field, including rules for author/co-author-ship acknowledging the original author(s) of research publications. These rules are communicated to all involved parties by the institutions.

- Institutions support the adequate dissemination of research results to a non-scientific public and, if applicable, their translation into socio-economic value.

- Institutions have in place clear rules regarding the protection and ownership of intellectual property generated by PhD candidates and ensure that the candidates receive a fair share of the revenues generated by the commercial exploitation of such intellectual property.

- Institutions ensure that PhD theses are made publicly available, possibly after an embargo period not exceeding two years.

Good Practice in Research

- Research in the framework of PhD theses is consistent with international ethical and data protection standards and approved by the competent committees.

- Institutions make available their ethical and data protection guidelines as well as guidelines for research integrity. Institutions ensure that PhD candidates have adequate training in the rules concerning ethics and responsible conduct in research.

- Institutions ensure that supervisors take the prime responsibility for their PhD candidates to conduct research according to the established standards of the research field.

Thesis Assessment Committee and Procedures

- Research degree assessment procedures, criteria and appeal mechanisms must be clear; they are operated fairly and consistently and are communicated clearly to all involved parties.

- To guarantee an adequate quality control, institutions ensure that the assessment committee includes at least one member, external to the institution.
Annex: References

- Using the principles for innovative doctoral training as a tool for guiding reforms of doctoral education in Europe [ERA-SGHRM, WG on Innovative Doctoral Training, May 2014]

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- Standards for PhD education in biomedicine and health sciences in Europe (ORPHEUS-AMSE-WFME, 2013)

- Report of Mapping Exercise on Doctoral Training in Europe "Towards a common approach" (ERA-SGHRM, June 2011)


- Doctoral degrees beyond 2010: Training talented researchers for society (LERU, March 2010)

- Doctoral studies in Europe: excellence in researcher training (LERU, May 2007)

- Eurodoc Statement of standards in the assessment, expectations and outcomes of doctoral programmes in Europe (July 2006)

  www.europa.eu.int/eracareers/europeancharter

- Salzburg Principles (EUA-CDE, 2005)

- Code of practice for the assurance of academic quality and standards in higher education (QAAHE (UK), September 2004)

- Eurodoc Gathering of Evidence and Development of a European Supervision and Training Charter (September 2004)

- Eurodoc Supervision and Training Charter for Early Stage Researchers (March 2004)