



GUIDE TO A DOCTORATE IN FRANCE

ANDÈS & CJC

*Spartacus Graduate
Research Collection*

GUIDE TO A DOCTORATE IN FRANCE

ANDÈS & CJC

2022

Spartacus
IDH

The **ANDès** (Association Nationale des Docteurs) is a national association of doctorate holders. It is governed by the French law of July 1st, 1901. It was founded in 1970 and recognised as being of public utility in 1975, it brings together doctors of all disciplines, whatever their age or professional status, whether they live in France or abroad. ANDès has three main missions:

- to promote the doctorate: to highlight the added value of the professional experience of the doctorate to reveal the skills of doctorate holders;
- to put the talents of doctors at the service of society: to contribute to the compartmentalisation of professional spheres by positioning doctors as “cross-boundary assets”, taking advantage of their expertise and know-how in meeting the challenges of tomorrow’s world;
- to create and synergise networks of doctorate holders: to increase the collective visibility of doctors, enable each one to develop his professional network and encourage interactions between network creators.

Website : andes.asso.fr/

Contact : contact@andes.asso.fr

The **CJC** (Confédération des Jeunes Chercheurs) is the confederation of early-stage researchers a national and multidisciplinary association governed by the 1901 law. It gathers forty associations of doctoral candidates and non-permanently employed doctorate holders, voluntarily involved in the valorisation of the doctorate and its recognition as a professional experience. At the national level, due to its expertise on the doctorate, it is a privileged interlocutor of the public authorities (Government, Parliament, National Council for Higher Education and Research...) and of any structure wishing to exchange on the subject (associations, companies, unions...). At the European level, it participates in the reflection on the doctorate and early-stage researchers through the federation of associations **EURODOC**, of which it is a founding member.

Website : cjc.jeunes-chercheurs.org/

Contact : contact@cjc.jeunes-chercheurs.org

*

Moral and financial support: the writing and editing of the *Guide to a Doctorate in France* were supported by a grant from the ministry in charge of research.

*

Each chapter has a corresponding e-sheet which can be accessed by scanning the QR code printed at the beginning of the chapter. All of these e-sheets are also available at <https://spartacus-idh.com/liseuse/104/fiches.html>

*

Date of last update of legal content: November 2018.

ISBN : 978-2-36693-104-4

© Spartacus-idh, Paris 2022

CONTENTS

— First part —

Before the doctorate

I	Challenges and actors of the doctoral programme	15
II	Motivations: from idea to project	21
III	Elaboration of a doctoral project	25
IV	Funding plan of the doctoral project	33
V	Validation and selection of doctoral projects	39
VI	Publication and dissemination of the doctoral project. .	45
VII	Doctoral candidate recruitment procedure	49
VIII	Finalisation of recruitment.	55

— Second part —

During the doctorate

IX	Integration of new doctoral candidates	65
X	Launch of the doctoral project	71
XI	Supervision and monitoring of the doctoral project . .	75
XII	Continuing professional education for doctoral candi- dates	85
XIII	Activities beyond research during doctorate	89
XIV	Duration of doctoral project and possible extension . .	97
XV	Conflict management during the doctorate	107
XVI	Intellectual property and ethics	115
XVII	Representation of doctoral candidates	125
XVIII	Thesis writing and defence.	131
XIX	Conclusion of the doctoral period	141
XX	Premature termination of doctorate	149
XXI	Skills developed during the doctorate.	165

— Third part —

After the doctorate

XXII	Tracking the career development of doctorate holders .	177
XXIII	Careers of doctorate holders	183



PREFACE

Giulia Malaguarnera

President 2020/21 of the European Council of Doctoral Candidates
and Early-stage Researchers (Eurodoc)

The doctoral training is the highest level of education around the world, representing the third cycle of higher education for the European Higher Education Area (EHEA)⁽¹⁾, in synergy with the European Research Area (ERA). Due to the nature of the doctoral training in the education system and the labour market in research, the status of doctoral candidates has not reached a global or European consensus whether they are considered among others as students, employees, or researchers. The European Council of Doctoral Candidates and Early-stage Researchers (Eurodoc), and at the French level the ANDès and the CJC, advocate for the employment status by referring to the European Charter and Code for Researchers⁽²⁾, which states:

“All researchers engaged in a research career should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, namely at post-graduate level, and should include all levels, regardless of their classification at national level (e.g. employee, postgraduate student, doctoral candidate, postdoctoral fellow, civil servants)”.

The variety of programmes mirrors the diversity of higher education in Europe, but the core of doctoral training is broadening the knowledge through original research. Even if, nowadays, the doctoral programmes need to better consider the job market beyond the academia⁽³⁾.

This good practice guide presents the workflow that anticipates the recruitment in the doctoral program, the duration of the doctoral training, and the career of doctorate holders. From the idea of the doctoral project and the choice of supervisors and mentors, this guide gives an overview of the pathways that any doctoral candidate must face to become a doctorate holder, including the challenges faced and the skills developed such as the management of conflicts, networking, fundraising, problem solving, autonomy in work and

1. <http://ehea.hyperion.education.gouv.fr/pid34438/three-cycle-system.html>

2. https://euraxess.ec.europa.eu/sites/default/files/am509774cee_en_e4.pdf

3. https://euraxess.ec.europa.eu/sites/default/files/policy_library/principles_for_innovative_doctoral_training.pdf

time management⁽⁴⁾. All these skills are fundamental not only in academia but also in industry, administration, and policy.

Ethics and transparency are starting to play a central role in research. New research assessments are focusing on the promotion of Open Science as the main practice to sharing knowledge and innovation. Nowadays, Open Science practices help to be transparent during the whole research process by publishing data management plans, datasets, codes, research methods, software, notebooks, preprint manuscripts, peer reviews, rebuttal letters, and final manuscripts. These practices enable us to show all the phases that will end up with the scholarly publication and assess the entire research process. At the end of the doctoral program, the doctoral candidates master the research methodology as leader of their own project. However, as part of a research team, the doctoral candidates may participate in other projects in supporting roles as well as supervising Master and Bachelor students, who may partially contribute to a part of the doctoral thesis.

In the present guidebook, the ANDès and the CJC worked on the presentation of the common challenges and solutions before, during, and after the doctoral training. Moreover, I invite you to contribute actively to the evolution of the research ecosystem by joining the associations and Eurodoc, which has the mission *“to advocate for positive change in the policies, culture and environment that affect the quality of training, well-being and employment conditions of early career researchers.”* I wish you a fruitful reading and good luck for the start of this challenging but very rewarding experience. Welcome on board!

All the best,

Giulia Malaguarnera

4. Weber, Charlotte Teresa, Borit, Melania, Canolle, Fabien, Hnatkova, Eva, O'Neill, Gareth, Pacitti, Davide, & Parada, Filomena. (2018). Identifying and Documenting Transferable Skills and Competences to Enhance Early Career Researchers Employability and Competitiveness (p. 9). Eurodoc. <https://doi.org/10.5281/zenodo.1299178>

FOREWORD

What is a doctorate?

The doctorate is a professional research experience, undertaken by a master's degree graduate or equivalent, which is sanctioned, after the defence of a thesis, by the attribution of the title of doctor ([decree of 25 May 2016](#) relating to the doctorate and [article L612-7](#) of the Education Code). It is the highest academic title awarded by French higher education.

The main part of the doctoral activity consists of innovative research work limited in time, supervised by a doctoral research supervisor, carried out within a research unit. It culminates in the writing of a thesis and its defence, i.e. a summary of the accomplished scientific work, validated by the scientific community.

How to use this guide?

Who is this guide for?

The *Guide to a Doctorate in France* is aimed at all those involved in the doctorate, namely:

- the professionals of research in France: doctoral students, doctoral supervisors, other colleagues ;
- the structures and their personnel who carry out or accompany a R&D (Research and Development) activity in France: research units, doctoral schools and doctoral colleges, institutions awarding the doctorate, employers of doctoral candidates;
- the public and private structures for funding research and its evaluation: funders, evaluation bodies;
- doctorate holders who have defended their doctorate in France;
- all current and potential recruiters of doctorate holders (in France and abroad), including companies (for example those eligible for the research tax credit) or local authorities;
- people, in France and abroad, who are considering starting a doctorate in France;
- public authorities (Ministry in charge of research and higher education, etc.) and political decision-makers.

Objectives and positioning

The aim of the *Guide to a Doctorate in France* is to constitute the best reference resource presenting to all doctoral actors the conditions, procedures, practices and advice for the organisation of the

doctoral system, the conduct of a doctoral project and the pursuit of a doctorate holder's career.

This guide is a reference for practices to be promoted, sometimes warning the actors against those to be avoided (boxes labelled "*Improper practices*"). It is part of a global approach to the continuous improvement of practices, within the legislative and regulatory framework in force.

This guide differs from other practical guides produced by associations, institutions or doctoral schools, in that it is intended for all actors concerned by the doctorate, which gives it a national and transdisciplinary scope.

Contribute to the improvement of the guide

The 23 chapters of the *Guide to a Doctorate in France* refer to the doctoral regulations in force since 1st September 2016, as well as to the regulations relating to the doctoral contract ([decree of 23 April 2009](#), modified by [decree of 29 August 2016](#)) starting from that date. The last update of their content was made in November 2018.

Each of the chapters of this guide is available on the guide-doctorat.fr website in the form of *Doctorat à la Loupe* ("Doctorate under the Magnifying Glass") sheets, which may be updated.

To contribute to the continuous improvement of the *Doctorat à la Loupe* sheets, please use the ticket manager available at <https://guide-doctorat.fr/contribuer>.

The purpose of this form is to collect remarks and comments, including :

- an error in the content of a sheet ;
- a missing point in a sheet;
- an error in the formatting of a sheet;
- a questionable point in a sheet.



The authors

French National Association for Doctorate Holders

The ANDès (Association Nationale des Docteurs) is a national association of doctorate holders. It is governed by the French law of July 1st, 1901. It was founded in 1970 and recognised as being of public utility in 1975, it brings together doctors of all disciplines, whatever their age or professional status, whether they live in France or abroad. ANDès has three main missions:

- to promote the doctorate: to highlight the added value of the professional experience of the doctorate to reveal the skills of doctorate holders;
- to put the talents of doctors at the service of society: to contribute to the compartmentalisation of professional spheres by positioning doctors as “cross-boundary assets”, taking advantage of their expertise and know-how in meeting the challenges of tomorrow’s world;
- to create and synergise networks of doctorate holders: to increase the collective visibility of doctors, enable each one to develop his professional network and encourage interactions between network creators.

Website : andes.asso.fr/

Contact : contact@andes.asso.fr

French Confederation of Early-stage Researchers

The CJC (Confédération des Jeunes Chercheurs) is the confederation of early-stage researchers a national and multidisciplinary association governed by the 1901 law. It gathers forty associations of doctoral candidates and non-permanently employed doctorate holders, voluntarily involved in the valorisation of the doctorate and its recognition as a professional experience. At the national level, due to its expertise on the doctorate, it is a privileged interlocutor of the public authorities (Government, Parliament, National Council for Higher Education and Research...) and of any structure wishing to exchange on the subject (associations, companies, unions...). At the European level, it participates in the reflection on the doctorate and early-stage researchers through the federation of associations [EURODOC](#), of which it is a founding member.

Website : cjc.jeunes-chercheurs.org/

Contact : contact@cjc.jeunes-chercheurs.org

Acknowledgments

Since 2009, about a hundred people, members of ANDès or CJC member associations, have participated in this project during working meetings. Doctoral candidates and doctorate holders from all fields of research (technical and experimental sciences, humanities and social sciences), of various ages and levels of experience, from all over France, from universities and *Grandes Ecoles*, have thus brought together their expertise and combined their points of view on the good doctoral practices described in this guide.

The associations would like to thank all their members who have contributed to the creation of this work: *Abdoulaye, Abraham, Alban, Alexandra, Alexandre, Alice, Aline, Anaïs, Andréas, Anna-Livia, Anne, Antoine, Armelle, Arthur, Asmaa, Aurélien, Aymeric, Benoît, Bernard, Bruno, Carole, Cécile, Christophe, Christopher, Clément, David, Déborah, Domoina, Doriane, Émeline, Eve, Francesca, Francis, François, Françoise, Frédérique, Georges, Hélène, Jan, Jean-Jacques, Jean-Tristan, Jihane, Juliette, Ka Ho, Kévin, Laura, Laurence, Laurent, Lauriane, Leslie, Linda, Lorelei, Lorena, Ludovic, Lyse, Maïwenn, Malak, Maria Angeles, Marie, Martine, Mathieu, Matthieu, Maud, Michaël, Morgane, Mouloud, Nada, Nadia, Nam, Nicolas, Nicolas, Nicolas, Omar, Paola, Pascal, Pascal, Pascal, Philippe, Philippe, Samuel, Quitterie, Romain, Romaric, Sandra, Sandra, Sébastien, Simon, Sophie, Sophie, Sylvain, Valentin, Valentin, Victorine, Vincent, Viviane, Yaël, Yann, Yoann.*

INTRODUCTION

To open the *Guide to a Doctorate in France* is to open a resource that has accompanied a decade of doctoral evolution to date. It is to grasp the ideal doctorate and to identify the improvements to be made continuously, supported by the visionary and pragmatic positioning of the ANDès and the CJC. It is to be empowered to contribute to the promotion and recognition of the doctorate.

History

Originally, the *Guide to a Doctorate in France* was part of the dynamic of guides for doctoral candidates, written collectively and distributed at the national level in a context of networking which benefited from the development of the web, such as the *Guide de l'étudiant-chercheur*⁽⁵⁾ of 1994 by the association *Etudiants et Recherche* (1986-1994) or the *Guide du Doctorant*⁽⁶⁾ of 2003 by the association *Guilde Des Doctorants* (1997-2005).

The original project

The project is born out of a desire to distinguish itself from previous doctoral candidate guides, both national and those developed by several associations of early-stage researchers or institutions. The objectives are: to bring together in a single book the problems of the various doctoral actors (doctoral candidates, but also supervisors, doctoral schools, institutions, funders, etc.); to explain and make accessible to them the legal and regulatory framework in which the doctorate is embedded; to detail the good practices put in place or encouraged by the 2006 texts, particularly in view of a better supervision and monitoring of doctoral candidates.

The *Guide to a Doctorate in France* project was structured in 2008 with the submission of a grant application, which the ministry in charge of research granted; regular meetings between our associations, ANDès and CJC, were set up in 2009.

Initially, the project included a set of factsheets, each of which addressed an issue related to the periods before, during or after the doctorate, and each factsheet was broken down according to each reader profile: “doctoral candidate”, “supervisor”, “doctoral school”, “institution”, “funder”, etc. Navigation between versions was to be found on a dedicated website, also including, for each sheet, “indicator” and “change management” tabs, as well as a collaborative space

5. https://web.archive.org/web/20120330145614/http://er.jeunes-chercheurs.org/guide_ToC.html

6. <https://web.archive.org/web/20120330145614/http://guilde.jeunes-chercheurs.org/Alire/guide/>

so that each actor could highlight the good practices implemented in his area (in addition to the collaborative spaces of the *Guilde*). The editorial process was also designed and implemented in the form of a dedicated wiki. The development of digital tools taking into account the ergonomics, as well as the needs and digital habits of the target audiences, finally led to the evolution of the structure and tools planned in 2009.

Taking into account these new uses, we proudly deliver to you, after more than ten years of work, a complete digital guide in English, as well as a dedicated website on guide-doctorat.fr.

An editorial process punctuated by the evolution of the doctorate

Between 2009 and 2012, the project and the editorial process gradually matured, and the ministry in charge of research, in the context of the *Assises de l'Enseignement Supérieur et de la Recherche* (2012), which led to the research law of 22 July 2013, encouraged the publication of the finalised content. Thus was born the series of “*Doctorat à la Loupe*” sheets: at first targeting a particular profile, then progressively in their general version, these sheets were published one by one on the websites of our two associations, between January 2013 and December 2017.

The year 2015-2016 saw the implementation of a doctoral reform, part of which was in line with the recommendations of the factsheets and which led to the order of 25 May 2016 relating to the doctorate and the decree of 29 August 2016 relating to the doctoral contract. Work then began on updating the oldest factsheets, in particular by creating two versions for those sheets whose content varied according to the start date of the doctoral contract (before or after 1st September 2016). In November 2018, our associations published on their websites the coherent set of updated sheets.

In 2019 begins a phase dedicated to the dissemination of the content of the series of sheets of the “*Doctorat à la Loupe*” and of the additional contents, the whole forming henceforth the *Guide to a Doctorate in France*. In June 2019, the dedicated website⁽⁷⁾ went online and was presented at the National Doctoral Day on 18 June 2019⁽⁸⁾. The website was gradually being enriched with content, in particular by adding a bibliography relaying the hundred or so references used⁽⁹⁾. A new subsidy dedicated to the editing, communication and translation of the content was granted by the ministry in charge of research. The voluntary work therefore continued in 2019-2022 and gave rise to the editing, publication and translation of this

7. <https://guide-doctorat.fr/>

8. *Bonnes pratiques de l'encadrement doctoral*, Journée nationale sur le Doctorat, 18 juin 2019

9. <https://guide-doctorat.fr/bibliographie>

book. The paper version in French was presented at the National Doctoral Day on 20 October 2021⁽¹⁰⁾.

A structuring project for the ANDès and the CJC

The project of the *Guide to a Doctorate in France* is fully in line with the common missions of our two associations concerning the promotion of the doctorate and the recognition of the associated professional experience. It is consistent with the ANDès' commitment to contribute to the improvement of the quality of the doctorate and its recognition, as well as to the networking of doctorate holders in France and internationally. It also responds to the CJC's commitment to defend the rights of early-stage researchers, to improve their working conditions and their representation in institutions, and to disseminate good practices to all actors. The elaboration of the *Guide to a Doctorate in France* served each of these objectives, and created coherence between the reflections on the necessary evolutions and the actions carried out to respond to them.

The methodical work of drafting this guide has made it possible to review exhaustively all the facets of the doctorate. Our two associations were then able to consolidate a coherent and well-founded reflection, covering all issues related to the doctorate. The robustness of this reflection is rooted in the French legal and regulatory framework that is imposed on the actors.

This work has been the subject of more than one hundred regular meetings, hosted free of charge in various locations (ANDès headquarters, higher education or research establishments, homes of volunteers from our associations, etc.), allowing for very rich debates and exchanges, including during breaks. These meetings were also crucial for building the expertise of the volunteers in a setting where they could speak freely, and helped to motivate the active volunteers to continue their voluntary work for the guide and the other projects of our associations. The subsidy obtained from the Ministry has enabled participants from all over France to attend these meetings, thanks to the reimbursement of transport costs.

A useful tool for our volunteers, too

This collaborative work has been particularly fruitful in feeding our associations' internal reflections and discussions on the doctorate, at a time when the 2016 reform was being prepared. The regular publication schedule of the factsheets has sometimes provided the impetus for positions to be taken on issues that had remained unresolved, taking advantage of both the internal reflections of our

10. Journée nationale du Doctorat le 20 octobre 2021

associations and the consensus reached during the drafting meetings of the guide.

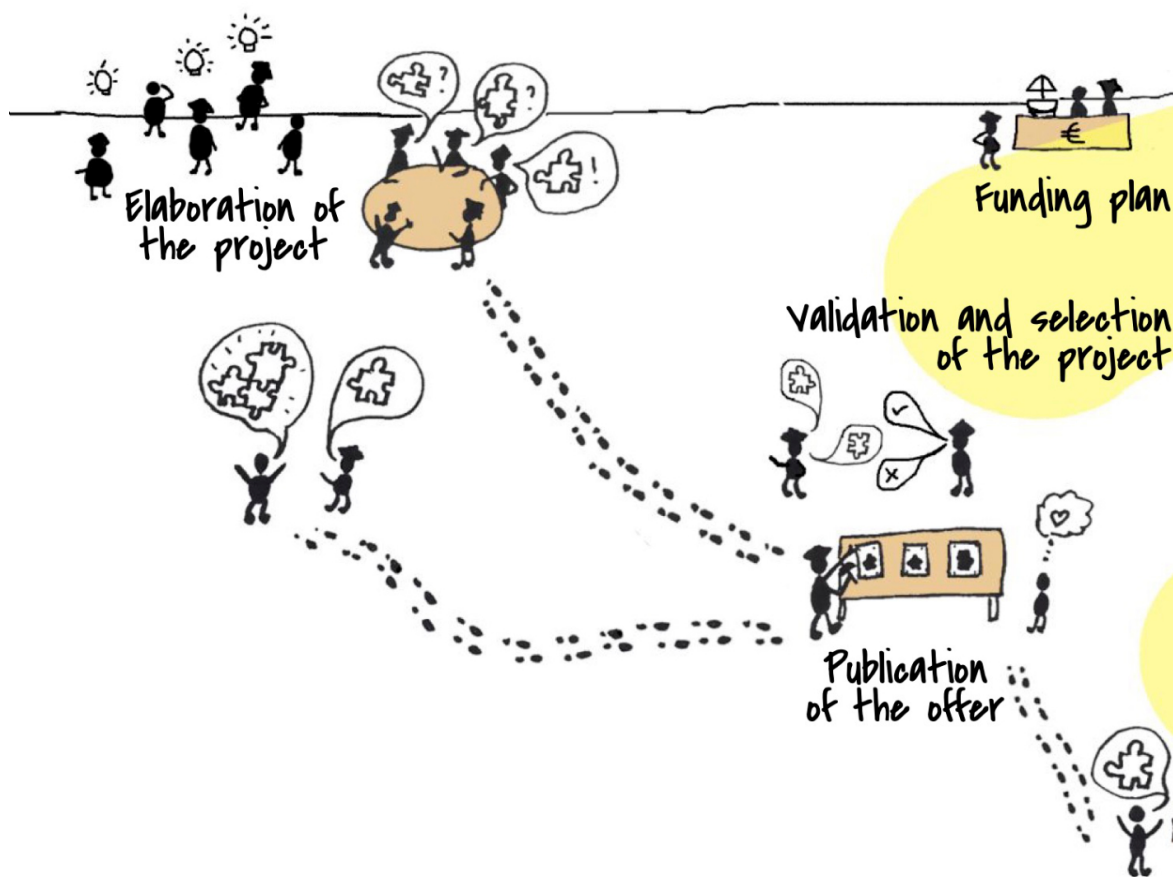
Being able to refer to the guide during the general discussions within our associations was also valuable in ensuring a coherence of positions with regard to good practice, by presenting an overall logic that avoids contradictions. The desire to focus on good practice and thus to present a positive image of the doctorate, even if it is sometimes far from certain realities, was also linked to this vision of a doctorate that is truly recognised and thought of as a professional experience throughout its completion.

The journey of the writers of this guide could be experienced as a “*school of thought*”. After questioning individual representations of the doctorate and the academic world, fed by the feedback from the oldest members of the group, whether or not they had a doctorate, the newcomers were able to take a step back from their own doctorate and their position as an early-stage researcher. The fact that some of the sheets are addressed primarily to actors other than doctoral candidates has particularly encouraged them to consider the doctorate from other points of view. The testimonies of active CJC members on the daily life of their research activity allowed ANDès members who participated in the same writing workshops to measure the evolution of doctoral supervision and monitoring practices in relation to the period of preparation of their doctorate.

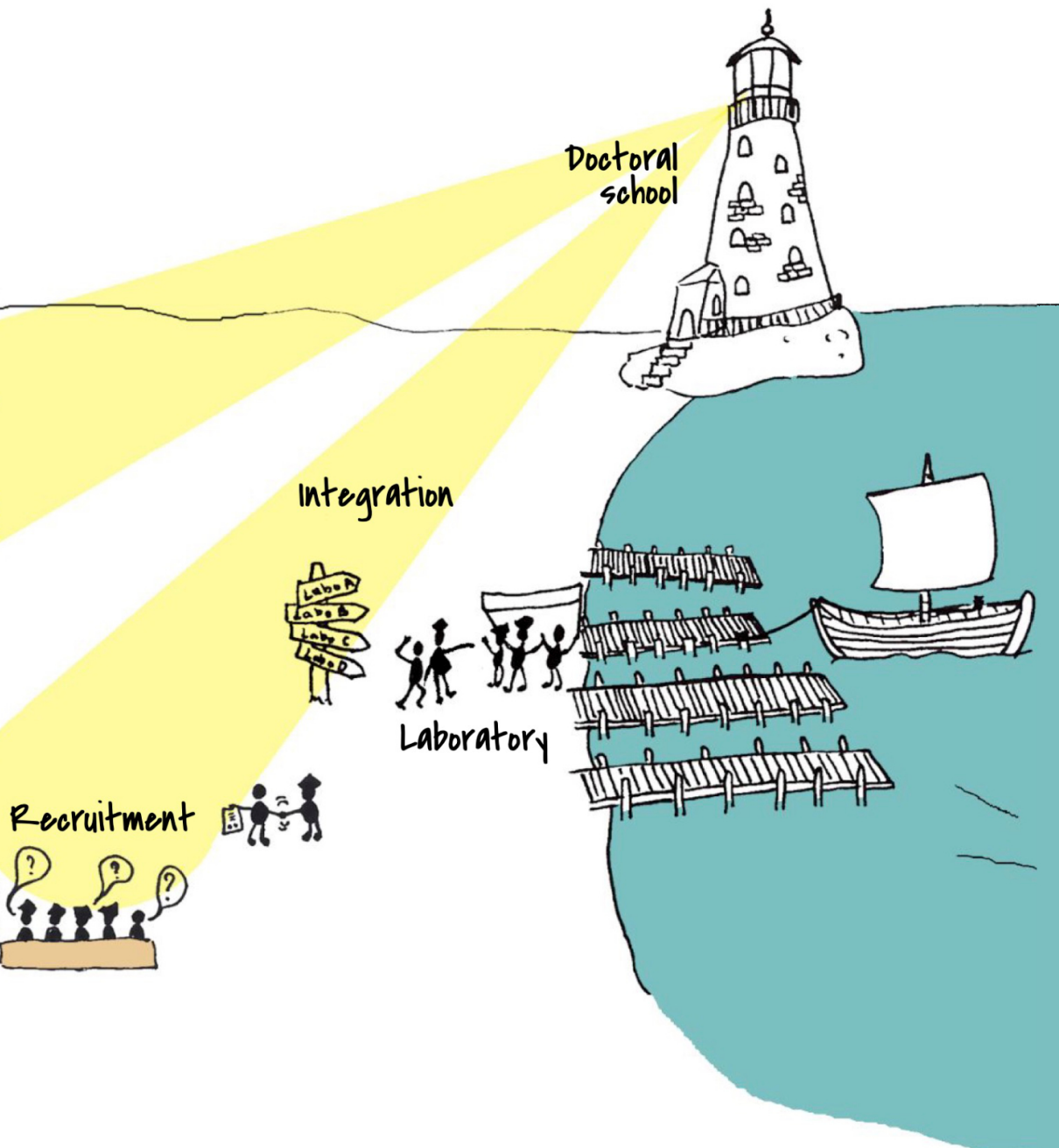
Thus, throughout the drafting of this *Guide to a Doctorate in France*, the preparatory stages of the guide were used as tools for the common or specific work of our associations: tools for internal communication and help in the debate, as well as a solid base of reference to respond to requests for information or calls for help received by email. During hearings organised by the public authorities on specific subjects for our two associations, during requests for presentations, forums, press articles, etc., the sheets in the “*Doctorate à la Loupe*” have often been used as a support by our representatives, mentioned in the discussion or printed and transmitted for the occasion. This appropriation by the volunteers of our associations has also been useful to them in their local involvement, in the case of mandates in the councils of institutions, doctoral schools or research units, where their knowledge of the *Guide to a Doctorate in France* has enabled them to make relevant proposals to develop locally the good practices that were not yet implemented.

Our associations hope that your reading of the *Guide to a Doctorate in France* will be at least as useful and inspiring as had been its writing.

L'Association Nationale des Docteurs (ANDès)
&
la Confédération des Jeunes Chercheurs (CJC)



Before the doctorate



CHAPTER I

CHALLENGES AND ACTORS OF THE DOCTORAL PROGRAMME

Challenges of a doctorate

Doctorate

A professional experience leading toward the academic title of doctor.



The doctorate is a **professional research experience**, which can be pursued by a master's graduate, and which is **sanctioned**, after a thesis defence, by obtaining the title of doctor ([order of 25 May 2016 relating to the doctorate](#) and [article L612-7 of the Code of education](#)). This is the highest academic title awarded by French higher education.

The main part of the doctoral activity consists in **innovative research work within a set timeframe** (3 years) and supervised by a director of doctoral research, within a research unit. It concludes with the writing of a thesis and its defence, *i.e.* a synthetic restitution of the accomplished scientific work, validated by the scientific community.

Managing and communicating an innovative project

The research work must be **innovative**, *i.e.* **new and leading to a revision and transformation of the existing work**. It is structured by the invention or the construction of know-how, technologies, or in the broadest sense of the term, tools - whether conceptual or methodological - that are innovative, and whose design has allowed the development of new knowledge or extension of the capacities for action.

This work is part of a **project management** framework, which includes the following steps: defining the objectives, analysing the existing situation, planning the actions and resources, searching for possible collaborations, obtaining, formatting and communicating the results.

In addition to the development of new skills and knowledge, research work includes **communication of results** in the form of scientific articles, participation in conferences, or applying for patents. It may include the transfer of these skills and their application in companies and in all areas contributing to the progress of society.

Complementary activities, such as teaching

At the same time, **additional paid activities** such as teaching or consultancy missions can also be provided by the doctoral candidate. In all cases, an active participation in the life of the research unit is imperative. Through this professional integration, the doctorate is used by individuals and institutions for networking purposes in research and beyond.

Know-how, knowledge, and interpersonal skills

The doctorate allows the **construction, acquisition and diffusion of specialized disciplinary and interdisciplinary know-how and knowledge, as well as more general skills** (project management, presentation techniques, languages and communication, etc.), that can be valued and sought after both in the public service of higher education and research, and in the entire socio-economic fabric. This set of skills also includes strategic vision, management of uncertainty and even management of failure, and it makes the doctor an essential actor of society, which is increasingly confronted with change, unpredictability, and a growing (and global) competitiveness.

Vocabulary to use

In order to consider the doctorate as a professional experience, **special attention must be paid to the vocabulary one uses**. Continuing to talk about “doctoral studies”, “students doing theses”, “scholarships”, “internships”, etc., **contributes to prolonging the denial of the professional nature of the research activity of early-stage researchers**.

With this in mind, the [European Charter for Researchers](#) and the [Code of Conduct for the Recruitment of Researchers](#) define the doctoral candidate as an “early-stage researcher”.

The following table summarizes the terms to avoid and to use.

Terms to avoid	Terms to use
PhD student, doctoral student	doctoral candidate, doctoral researcher, early-career researcher, early-stage researcher
postdoc, postdoctoral intern	researcher, researcher doctor, contractual doctor, contractual researcher
postdoctoral research, post-doctoral internship	research position / job / fixed-term contract
thesis supervisor	doctoral supervisor, supervisor of doctoral research
thesis subject/topic	doctoral research project, doctoral project
scholarship	non-contractual doctoral funding / work contract, funding, remuneration, salary
occupational integration	career continuation, professional trajectory, professional evolution, reconversion, next job
studies, additional courses	continuing education, professional

In the same spirit, it is important that university lecturers, researchers and other higher education personnel as well as private sector actors do not oppose “academic” to “professional”.

Different actors of the doctorate

The actors of the doctorate are multiple: besides the doctoral candidate and his doctoral project supervisor, there can also be a co-supervisor, a tutor. They are surrounded by the employer, the funder, the research unit and its director, the doctoral school and its director, the institution, the partners, the evaluation bodies, as well as associations of early-stage researchers.

Doctoral candidate

When the candidate for a doctoral project is recruited, he becomes the key actor of this project. The doctoral candidate is trained through

research. Even if he is in training, he is also and above all a “production agent”: he designs new know-how; he develops technical or methodological tools; he produces knowledge. His training cannot be considered without taking into account his professional activity. He is therefore remunerated, and benefits from the usual social security coverage (health, retirement, unemployment, parental leave, etc.).

The doctorate is also a diploma: any person preparing for an academic title must be regularly registered in an institution authorized to grant the title in question. However, this institution registration does not make the doctoral candidate a student as defined by the [article L811-1 of the Code of education](#), *i.e.* a user of higher education.

The doctoral candidate, unlike students, no longer has to show that he has acquired knowledge. His role, during three years on a full-time basis, consists in participating in one of the missions of the public service of higher education and research, the production of know-how and knowledge; this is why his remuneration must necessarily take the form of a salary (see the [circular of October 20, 2006](#) of the Ministry of Research, relating to the resorption of non-contractual doctoral funding). He is evaluated on this capacity to produce knowledge on the day of the defence of his doctorate.

After this defence and after the positive opinion of the jury, the doctoral candidate obtains the title of doctor. Doctoral candidates and junior contractual research doctors form the group of early-stage researchers.

Doctoral project supervisor, co-supervisor or “tutor”

The supervisor of the doctoral project (or doctoral research) is also a key actor. He is responsible for the development of the doctoral project, in particular in seeking funds for the project. It is up to him to recruit a doctoral candidate for the project through a formalized procedure. For three years, as the direct supervisor of the doctoral candidate in the laboratory, he is responsible for monitoring the research project, and accompanies the development of the professional project of the early-career researcher. He is one of the co-signatories of the doctoral charter. It is necessary to have a good understanding between the doctoral candidate and his doctoral project supervisor. In order to be able to supervise a doctoral project, he must hold a habilitation, *i.e.* an accreditation to lead research (HDR).

It is also possible that one or more researchers (not necessarily belonging to the same laboratory as the project supervisor) also supervise the doctoral candidate, as co-supervisors. These co-supervisors do not need to have the habilitation (HDR), but it is important that they also sign the doctoral charter.

The doctoral project and the doctoral candidate can also be supervised by a tutor. This is usually a scientist from a different laboratory and,

if possible, outside of the project's home institution. He can, if necessary, act as a mediator between the doctoral candidate and his supervisor.

Employer

The employer is the signatory of a work contract with the doctoral candidate. It is the employer's responsibility to pay the salary to the doctoral candidate and to pay the employees' and employers' contributions. It can be an institution, a company, a territorial or other collectivity.

Funder

To carry out a doctoral project, one needs financial means. It is up to the funder to provide them. The funder may be different from the employer.

Laboratory: research unit and its director

A doctoral project must be elaborated in a research unit, and in particular in accordance with its research fields. This is the place where the doctoral candidate will work for three years, with his doctoral supervisor and other colleagues (see [article L321-3 of the Code of Research](#)).

The director of the research unit is legally the person responsible for what happens in the unit he leads and manages. He can participate in the recruitment of the doctoral candidate for a doctoral project, but he must above all validate the hosting of the doctoral candidate in the research unit, sign the doctoral charter and the installation report. He is also the first person to contact in case of conflict within the research unit.

The research unit can be subdivided into research teams, which are working groups centered around a theme or a common research project.

Doctoral school and its director

The doctoral school is defined as a federation of research units. A doctoral project is developed by a research unit that is a member of the doctoral school and validated by it. The recruitment of the doctoral candidate chosen by the research unit is validated by the doctoral school. The candidate registers at the institution to which the doctoral school is affiliated. This doctoral school must ensure the monitoring of the recruitment procedures of doctoral candidates, the monitoring of the quality of the progress of doctoral research, the monitoring of the implementation of the doctoral candidates' professional project, as well as the monitoring of their career development. The doctoral school participates in the international scientific cooperation policy of the institution to which it belongs.

For these missions, the mutualisation of assets must be encouraged.

At the helm of the doctoral school, the director of the doctoral school is its driving force. He is the link between the doctoral candidates and the home institution. When a problem during a doctoral project continues to persist even after being addressed by the director of the research unit in question, the director of the doctoral school may intervene or appoint an external mediator to settle the conflict.

Institution

The institution registers the doctoral candidate and awards him the title of doctor within the framework of its doctoral policy.

Partners

Partners of the doctoral project are the sponsors of the research project or the research partners.

Evaluation

Evaluation concerns all research evaluation bodies (especially the evaluation bodies of doctoral schools), as well as the decision-making bodies regarding research policy, from the local level to the Parliament.

Associations of early-stage researchers

Associations of early-stage researchers (doctoral candidates and junior doctors) may exist in the doctoral school or in the home institution. Depending on their statutes, these associations may have different goals, such as:

- connecting doctoral candidates from different research units;
- making connections with other actors of the institution (administration, students, graduates, etc.);
- promoting the doctorate and research in general;
- being asked to resolve a conflict during a doctoral project.

Through participation or contribution to their various activities, they can allow doctoral candidates to develop and acquire complementary skills and to expand their network.

CHAPTER II

MOTIVATIONS: FROM IDEA TO PROJECT

A doctoral project is built from the motivations of all the actors involved:

- the **doctoral supervisor** wants to recruit an early-stage researcher to develop his research problems;
- the future **doctoral candidate** wishes to acquire professional experience in research and to train for the profession of researcher, while obtaining the highest internationally recognised title awarded by French higher education;
- the **funders** finance doctoral projects in order to advance research on certain topics and respond to societal issues;
- the **partners** participate in the development of the project and expect direct benefits from it;
- the **doctoral schools** guarantee smooth running of doctoral projects;
- the **research units** and the **institutions** host doctoral candidates among their research and teaching staff in order to implement their scientific policy and train doctors.



The development of the doctoral project therefore does not depend on the demand of a single actor, and its success is based on the convergence of all individual interests.

This fact sheet details the motivations of the two main actors in a doctoral project: **the doctoral supervisor and the doctoral candidate.**

Motivations of the doctoral supervisor

The motivations of the doctoral supervisor are based on **the contribution of the doctoral project to his own scientific problems, in line with the scientific policy of his unit which he helped to develop.** The doctoral project can thus give concrete expression to the desire to strengthen a research topic, broaden existing topics, and initiate new collaborations within or outside the unit.

The doctoral supervisor is driven by the intention to **integrate the recruited doctoral candidate into a working group**, his research unit, by ensuring that the doctoral candidate will have all necessary means to carry out his research work successfully. He is responsible for the **transmission of the profession of researcher** and for the

acquisition of doctoral skills by the future recruit: appropriation of the proposed subject, acquisition of intellectual skills in the broad sense, pursuit of a career towards different professions (research, higher education, R & D (Research and Development) engineering, consulting, senior public service, etc.).

Beyond the scientific aspects, doctoral projects contribute to the **career development of the doctoral supervisor**, and consequently to the development of research units. Indeed, they are part of a **dynamic of increasing responsibility and the acquisition of skills in project supervision and team management**. Furthermore, doctoral candidates and former doctoral candidates participate in the growth of the doctoral supervisor's network in public and private sectors.

From this perspective, the doctoral supervisor plays a central part in the setting up of a doctoral project: first as a **project carrier**, and then a **general supervisor**. Together with other possible supervisors, he is the designer of the project, as the best suited person to propose a relevant research problem. In this respect, he is responsible for seeking funds.

Before setting up the doctoral project, the doctoral supervisor ensures that he will **effectively be able to supervise the doctoral candidate appropriately throughout the doctoral programme**. For example, the number of doctoral students already under his supervision, or the prospect of a long stay in another research unit, must be taken into consideration beforehand. The doctoral supervisor also ensures that the project size is **adapted to the format of a doctorate**. A doctorate is neither an internship, nor an engineer's or technician's job, nor a ten-year research project, but a three-year research project for a researcher at the beginning of his career.

Motivations of the doctoral candidate

The doctoral candidate's motivations are based on **his interest in the research experience, integrated into his professional project, within the framework of a reflection initiated before the start of the doctorate**.

By committing to a three-year, full-time **professional experience as a researcher**, the future doctoral candidate must possess, and be willing to develop, **dispositions corresponding to the activities of a researcher**. The doctoral candidate will develop his curiosity, his affinity for formalisation (posing a problem, abstracting or conceptualizing, communicating), his ability to construct robust scientific objects that will withstand peer testing. He will consider the dimensions of his work as a doctoral researcher: his place and his role as a researcher at the beginning of his career within the research group into which he will integrate during his doctorate; the conduct of a research project limited in time under the supervision of one or more supervisors; his gradual gaining of autonomy; the evolution of his skills during the

doctorate, at the end of which, from an early-stage researcher, he will become a doctor, recognized by the scientific community.

Finally, the elaboration of a professional and personal project integrates the **prospects of career pursuit after the doctorate**. The doctoral candidates must be aware of the diversity of professions practiced by doctors, in relation to the extent of their skills⁽¹⁾ as scientists and executives. In order to articulate the doctorate in line with his future ambitions, judge its relevance or determine his choices in favour of a research unit, a director, an institution or a particular project out of many, the doctoral candidate identifies the ways in which the skills acquired and the opportunities offered during the doctorate contribute to his long-term professional project.

A candidate that builds his application(s) based on these reflections could calmly consider his recruitment for a doctoral project.



IMPROPER PRACTICES

The doctorate is not a suitable framework for carrying out research work in one's free time, for personal enjoyment only, as a hobby. It is not conceivable to pursue a doctorate when the work conditions for its realisation are not met: absence of a project carried by a doctoral supervisor, absence of integration of the project in a scientific policy and of the doctoral candidate in a research group, absence of material means (salary and resources necessary for the project), absence or insufficiency of time dedicated to the research work. In particular, conducting a doctorate in parallel with another professional activity without working time arrangements is not possible.

Liberal or libertarian discourses of the type "everyone has the right to do a doctorate" are not in line with the reality of the doctorate. These discourses currently justify bad practices of supervision, hide inappropriate working conditions for the candidate, serve the personal interests of doctoral supervisors and lead to the production of mediocre scientific results.

These practices are incompatible with the current doctoral reference framework and go against the interests of the candidate and the institutions. Moreover, they are already quite simply prohibited in many doctoral schools. They are also considered bad when evaluating doctoral schools.

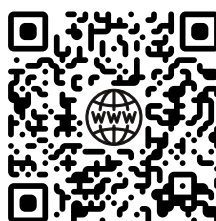
Research work may be carried out outside the doctoral programme. If this is the case, then criticism of the published results will allow its evaluation.

1. "The specific skills acquired during this training allow them to exercise a professional activity at the end of the doctorate in all fields of activity, in the public as well as in the private sector", [article 1](#) of the order of 25 May 2016 relating to the doctorate.

CHAPTER III

ELABORATION OF A DOCTORAL PROJECT

The doctoral supervisor and his team have an essential role in the elaboration of a doctoral project: to define the research problem, to seek partnerships, resources, to establish the profile of the doctoral candidate and to recruit him.



The design of a doctoral research project is done **at the initiative of research groups** (team, unit, laboratory, depending on the case). They are the ones who are up-to-date with scientific news and emerging issues, and are able to circumscribe a research theme into a precise research project that can be carried out in the context of a doctorate, *i.e.* by an **early-stage researcher** over a period of **three years, full-time**. Finally, they are the ones responsible for insuring that the project is funded. The definition of doctoral projects constitutes one of the variations of their **scientific policy**.

Subsequently, we will refer to the research collective directly involved in the design and monitoring of doctoral projects as a “team”, and to the administrative structure containing one or more teams with the same field of research as a “unit”.

All doctoral research projects are submitted for validation to the director of the research unit and then to the doctoral school.

As it progresses, this project gives rise to a document describing all of its components. Thus, whatever the scientific context, a doctoral project includes the following elements:

- a **research problem**;
- a presentation of the **scientific environment** in which the project will take place: the research team to which the future doctoral candidate is assigned and possible partners or collaborators (foreign institution, company, territorial collectivity, administration, association, etc.);
- a presentation of the **material, financial and human resources** planned to carry out the project (equipment for experiments or fieldwork, support for colloquia and conferences, etc.). This includes the remuneration of the future doctoral candidate;

- an **overall supervision of the project by an experienced researcher** who is the **initiator of the doctoral project**. Other researchers may also be included in the project's supervision team, under the responsibility of the project initiator;
- a **profile of the desired candidate** (as in any job offer).

If certain elements cannot be detailed, it is very likely that the doctoral project will not be sufficiently developed or successfully completed. It is very risky to start a doctoral programme under these conditions.

Research problem

The **initiator of the doctoral project** has the responsibility to **formulate the research problem**.

This problem has the following characteristics:

- **Scientific integration:** the doctoral project is correctly integrated into the scientific policy and the competences of the team proposing it and hosting it. This condition is indeed necessary to ensure an environment conducive to productive and enriching work for both the research team and the doctoral candidate. A good integration of the project in the scientific policy of the team encourages rich interactions with colleagues as well as access to both technical and intellectual resources contributing to the quality of the doctoral project. It is unreasonable to entrust the opening of scientific avenues that are new and risky for the research team to an isolated doctoral project: the lack of integration of the project is a major risk of failure, because it is synonymous with isolation and scientific stagnation, loss of time and discouragement for the early-stage researcher.
- **Innovative character:** the research work is **innovative, i.e. new and leading to a revision, a transformation of the existing**. It is structured by the invention or the construction of know-how, technologies, or in the broadest sense, tools, either conceptual or methodological. Its conception and innovative character allow the elaboration of new knowledge or the extension of capacities for action. As with all innovative work, it is important to plan an appropriate valorisation strategy, in consultation with the relevant services within the team's supervisory bodies.
- **Scientific feasibility:** the feasibility of the project corresponds to the requirements of a doctorate, *i.e.* a three-year full-time project entrusted to an early-career research professional. This feasibility can be justified by presenting the state of the art, the previous work of the research team, the intended objectives, the expected or possible results, a preliminary project schedule, etc. It must be kept in mind that a doctoral project is not the scientific work of a lifetime.

**IMPROPER PRACTICES**

The doctoral project cannot be reduced to a scientific work consisting of a review and implementation of the state of the art in the field in question. Nor should it be a technical internship confining the early-stage researcher to the role of a “scientific data producer” who would only gather survey data or carry out experiments. **The analysis and the putting into perspective of the results by the doctoral candidate are essential in order for him to take part in the team’s strategy.**

Consequently, the description of the research project is structured around the following points:

- **Context**
 - Scientific context in which the work is carried out and the project’s place in the team’s scientific dynamics.
 - A state of the art of the field and of the previous work of the scientific community and the team on the subject.
- **Presentation of the problem and the work to be carried out**
 - A proposal of scientific objectives and methodologies.
 - A preliminary schedule of various project deadlines.
- **Benefits and valorisation**
 - The expected scientific results and their putting into perspective with the possible socio-economic implications or consequences.
 - The conceivable valorisation actions (publications, patents, creation of activities, popularisation, etc.).
- **Partnerships and collaborations**
 - Where appropriate, the presentation of scientific collaborations and socio-economic partnerships.

**IMPROPER PRACTICES**

Some believe that the candidates should be the ones to define their doctoral project, not the research team. The arguments put forward are generally that it would be formative for the candidates, or even that it would allow more innovative projects to be born.

Entrusting the design of doctoral projects to the candidates rather than to the persons qualified to lead research is a reversal of roles. This would be tantamount to entrusting the definition of the research teams’ scientific policy to master’s graduates.

Defining a doctoral project is a complex task that requires experience, one that a master’s graduate does not have

(knowledge of the state of the art of the field, ability to assess the scientific feasibility of a project, ability to mobilise the financial resources needed for the project, etc.). Also, even though a candidate can contribute to the definition of a project (especially if he has been involved in the project's premises during a research internship), the responsibility for the design of the project must not be placed on him.

Partnership and collaborations

In the case of collaboration with a partner (foreign institution, company, territorial collectivity, administration, association, etc.), the development of the doctoral research project is naturally done with them, whether the idea for the doctoral project is their initiative or that of the research team.

The research team and the doctoral supervisor take particular care to ensure that the project **fulfils the requirements of a doctorate**, especially when it is planned to take place partly at the partner's premises.

The development of a partnership requires giving particular attention to:

- **managerial issues:** the role of each person involved in the supervision of the project (in the research team and on the partner's side) is clearly stated and understood by the other party;
- **resources invested:** the contribution of each person in the project is evaluated (see below);
- **questions of intellectual property over the results:** depending on the topics and partnerships, these questions can be very sensitive.

For each of these aspects, the team in charge of promoting research and drawing up contracts (see with the team's supervisors) is an appropriate contact for the development of this collaboration and its formalisation through an agreement or collaboration contract.

In addition, there are national programmes to encourage and support the creation of partnerships on doctoral projects, in particular:

- The programme CIFRE (Industrial Research Doctoral Training Agreement), an industrial agreement for doctoral training through research (since 1981), in the private sector or the public sector (territorial collectivities and public players). This programme, managed by the ANRT, National Association for Research and Technology (Association Nationale de la Recherche et de la Technologie), enables a partner (company, territorial collectivity, administration, association, etc.) to recruit a doctoral candidate for a CDI (permanent contract) or a CDD (fixed-term contract).

- The *cotutelle* (joint doctoral degree), an international doctoral supervision system enabling a doctorate to be carried out between a French institution and a foreign institution.

Resources associated with the doctoral project

The definition and gathering of the resources necessary for the research project are the responsibility of the doctoral supervisor. In the case of a partnership on a doctoral project, each party defines the resources it invests in the project.

Material and human resources for the doctoral project

Here is an inventory of the team's material and human resources necessary for the research project:

- **scientific skills** useful to the project and already acquired by the team;
- **technical means** necessary for the realisation of the research project, whether they are already available in the team, to be acquired, or expected via collaborations;
- the **facilities** necessary for the work of the future doctoral candidate;
- all the **personnel**, within the team or outside of it, which can contribute to the acquisition (by the candidate or any other person) of the skills necessary for the realisation of the project: the researcher's supervisors, other scientific personnel, technical personnel, administrative personnel.

Financial resources for the doctoral project

The definition of the research project contains an estimate of the project budget, including:

- the **remuneration** of the doctoral candidate;
- the cost of the resources
 - **technical**: office and computer equipment (computer, professional e-mail address, software, mailing lists, office supplies, photocopy credits, making business cards), specific equipment and consumables, bibliographic resources (access to online databases, library borrowing facilities, facilitated access to the Inter-Library Loan, etc.), necessary travel to work;
 - **human**: estimate of the time-use of the various actors in proportion to their involvement (supervisors, technicians, etc.);
 - of **valorisation**: travel expenses for conferences, costs of publications, possible guarantees of intellectual property (patents, trademarks, licences of exploitation, etc.);
 - other.

Project management

The **initiator of the doctoral project** aims to **become the doctoral supervisor**. He has the **managerial responsibility for the project**. He is in charge of the elaboration and then the **coordination of possible scientific collaborations and financial partnerships** around the doctoral project (for example: cooperation with a foreign institution, a research institution, a company, etc.). Several co-supervisors may then be involved in the project, under the coordination of the doctoral supervisor. A co-supervisor can be *"a person from the socio-economic world recognised for his skills in the field"*⁽¹⁾ in order to provide specific knowledge and skills, for example related to the working environment or the object on which the research is carried out, required for the conduct of all or part of the project.

In the case of international *cotutelles* (joint supervisions), it is important that the two doctoral supervisors agree on the sharing of managerial responsibilities for the project.

The functions of a doctoral supervisor may be carried out, in accordance with the regulations⁽¹⁾:

- by professors and assimilated staff;
- by the staff of higher education or research institutions accredited to lead research;
- by other doctors, chosen on the basis of their scientific competence by the head of the establishment, on the proposal of the director of the doctoral school and after obtaining the opinion of the research board of the academic council of the institution.

If several people are involved in the supervision of the project, the doctoral school makes sure that they possess the necessary skills to carry out the project. **The responsibility for the project then falls to the doctoral supervisor**, who has a central role. He must not serve as a "first name", i.e. his involvement in the project must not be reduced to non-scientific issues (administrative reasons, reputation, etc.).

The doctoral supervisor **evaluates the part of his working time** that he will invest in the supervision of the project. The same evaluation is carried out for each of the possible co-supervisors. The doctoral supervisor also indicates how many other doctoral projects he is involved in.

The **director of the research unit** is informed of all doctoral research project proposals likely to take place in the unit. He gives his opinion on each project before the transmission to the doctoral school, in order to ensure:

- the relevance to the **scientific policy of the unit**;
- the **technical feasibility** of the project in terms of the capacity to accommodate and supervise the team and its financial, material and human resources;

1. [article 16](#) of the order of 25 May 2016 relating to the doctorate

- the **availability of the doctoral supervisor** (and other possible supervisors depending on the unit) with regard to other research projects in which the doctoral supervisor is involved.

Candidate profile

The description of the research project includes a **profile of the expected candidate** (as in any job offer): necessary training, required and desired qualities and skills.

Case of the international *cotutelle*

In the case of an international *cotutelle*, the French doctoral supervisor **defines the doctoral project in agreement with the foreign co-supervisor**. He must be aware of the **additional administrative constraints** involved in the *cotutelle* (drawing up the *cotutelle* agreement, duration and financing of stays in France, but also, in the particular case of the recruitment of a foreign candidate as a doctoral candidate, deadlines for issuing the visa and duration of the residence permit).

CHAPTER IV

FUNDING PLAN OF THE DOCTORAL PROJECT

After the doctoral project has been defined by the doctoral supervisor, he becomes responsible for the financial arrangements necessary for its realisation. The funding includes:

- the remuneration of the doctoral candidate;
- the cost of the material or means necessary to carry out the project;
- missions (geographical mobility justified by the needs of the research, including scientific cooperation, fieldwork, congresses, symposia and conferences, summer schools, etc.).



Funding source

Any research project requires financial resources (see chapter 3 *Elaboration of a doctoral project*), both to pay the people involved and to acquire the material means to carry it out. Given the potential difficulties in gathering these resources, it is essential to anticipate as far in advance as possible the financial needs of the doctoral project and the potential sources of funding.

Funding can be:

- awarded by the institutions through the doctoral schools: this funding ensures the remuneration of doctoral candidates;
- resulting from the response to a call for projects: this funding may cover the doctoral candidate's remuneration and/or the costs related to the doctoral project;
- product of a partnership with another organisation (company, public institution, etc.) or a service for the latter.

The scientific and financial aspects of the doctoral project are inseparable and interdependent. It is therefore crucial to have the necessary funding for the project before the recruitment process begins. Ensuring that the financial and scientific aspects of the doctoral project are compatible is the responsibility of the doctoral supervisor when setting up the project, and of the doctoral school when validating it.

Project funding

The doctoral supervisor can develop a research partnership with another structure (private or public) or respond to a call for projects published by a funder (e.g. a territorial collectivity, a research institution, a company, an association, etc.). It should be noted that it is also possible to solicit funders during the course of the project, in particular to finance the acquisition of equipment.

Each funder has its own project selection criteria. It is important to know them and to make that knowledge as explicit as possible in the response to the call for projects. In anticipation of validation by the doctoral school, it may be useful to submit the project to the doctoral school before sending it to the funder.

When the doctoral project, accompanied by its funding, is finalised, the doctoral school validates it, thus opening the possibility of recruiting the doctoral candidate: the doctoral supervisor can then begin the search for the candidate.



IMPROPER PRACTICES

Currently, some funders insist to be themselves associated to the recruitment of the future doctoral candidate rather than funding projects and letting the supervisor recruit him.

It is however preferable that the criteria for awarding funding be based on the qualities of the project rather than on the merit of the applicants (see chapter 5 *Validation and selection of doctoral projects*). It is the responsibility of the doctoral supervisor, in collaboration with the research unit and the doctoral school, to recruit a doctoral candidate whose profile corresponds to the objectives of the project.

Institutional funding

The Ministry of Higher Education and Research allocates a global budget to institutions for the financing of their wage bill. The institution then chooses the number of doctoral projects it wishes to finance and distributes the funding among the different doctoral schools. The doctoral candidate's minimum wage is set by ministerial order. The doctoral supervisor sends a project to the doctoral school. It is evaluated according to several explicit and public criteria, which are detailed in the chapter 5 *Validation and selection of doctoral projects*. If the doctoral project obtains funding from the institution, the doctoral school authorises the recruitment of the doctoral candidate. The doctoral supervisor will then be able to begin the search for the candidate.

The doctoral candidate's remuneration

The doctoral candidate is remunerated on the basis of a work contract, in return for the research work he provides.

The definition of the work contract is not legal but jurisprudential. The work contract is defined as follows, in application of the [articles L1221-1 and following of the Labour Code](#), as the agreement by which a person accepts to place his activity at the disposal and under the subordination of another, in return for remuneration⁽¹⁾.

A public law contract is created for doctoral candidates, and the doctoral contract, as well as the framework of the agreement is proposed for the private sector. Other contracts may be considered as long as they comply with the labour laws and regulations in force. In all cases, the funding used to remunerate the doctoral candidate may come from a variety of sources. An agreement will then specify the relationship between the different funders or partners and the employer.

The contractual doctoral candidate is an employee: he benefits from the corresponding social security in terms of illness, family, retirement and unemployment. Funding that does not provide full social security has been banned by the [circular of 20 October 2006](#) of the Ministry of Research, relating to the resorption of “libéralité” (non-contractual doctoral funding).

As part of their contract, doctoral candidates must be able to benefit from training courses, particularly those offered by research institutions (CNRS, INSERM, CEA, etc.), institutions or doctoral schools. Access to these training courses is guaranteed by the doctoral school, which supervises the adequacy between the training courses followed and the needs of each doctoral candidate.

Doctoral contract

The doctoral contract is defined by the [decree n°2009-464 of 23rd April 2009](#) relating to contractual doctoral candidates in public institutions of higher education or research.

It is a 3-year contract with a non-renewable 2-month trial period. This duration of three years may be extended by a maximum of one year in the event of a sick leave or maternity leave, provided that the corresponding medical evidence is provided in good time. Two extensions of a maximum of one year may also be considered if justified by exceptional circumstances concerning the research work of the contractual doctoral candidate (Article 7 of the above-mentioned decree).

The doctoral contract defines the annual service entrusted to the doctoral candidate, which may be:

- full time research: the doctoral candidate devotes himself exclusively to research activities related to the preparation of his doctorate;

1. This is the decision of the Court of Cassation, Social Chamber, 22 July 1954, Bull. civ., IV, no. 576, which serves as a reference for the definition of a work contract.

- a full time made up of at least five sixths of research and its complement excluding research, which consists of accomplishing, within this limit⁽²⁾, one or more of the following activities (see chapter 13 *Activities beyond research during doctorate*):
 - teaching (up to 64 hours of presence with the students ⁽³⁾, equivalent to 64 half-days of work);
 - dissemination of scientific information or valorisation of research results (up to 64 half-days);
 - expertise (up to 64 half-days).

His gross salary is precisely defined in the doctoral contract. Doctoral candidates under this contract are considered to be contractual public servants and are attached to the [decree n°86-83 of 17 January 1986](#) relating to the general provisions applicable to temporary public servants. The minimal remuneration of a doctoral candidate under a doctoral contract is set by a ministerial order⁽⁴⁾. It is indexed on the index point of the public service. As of 1 February 2017, this salary amounts to 1768.56 € gross monthly, or 1989.36€ for a doctoral candidate whose one sixth of the working time is devoted to one or more non-research activities..

In the event of a dispute concerning the doctoral candidate's professional situation (see chapter 15 *Conflict management during the doctorate*), such as a dismissal, a joint advisory committee may be seized by the employer or the contractual doctoral candidate⁽⁵⁾. The latter will give an advisory opinion to the employer, who will make the necessary arrangements. This committee does not deal with scientific disagreements.

The institutions for which this type of contract is relevant are:

2. the annual legal working time is 1607h, according to the [article 1](#) of the decree of 25 August 2000. One sixth of the annual service represents 64 half-days of work.
3. If the teaching is carried out in the part-time form, it corresponds to 64 hours of tutoring.
4. [decree of 29 August 2016](#)
5. Advisory committees for contractual doctoral candidates (CCDCs) have been set up by the [decree no. 2009-464 of 23 April 2009](#) relating to contractual doctoral candidates. Its [article 10](#) stipulates the following: *"An advisory committee is set up by the internal regulations of each institution to deal with questions of an individual nature relating to the professional situation of contractual doctoral candidates. It shall comprise, in equal proportions, of representatives of the Scientific Council and elected representatives of contractual doctoral candidates. This committee shall deliver reasoned opinions to the head of the institution. It may be consulted on the initiative of any contractual doctoral candidate or the head of the institution"*. This article has been modified by the [article 13](#) of the Decree of 29 August 2016 on contractual doctoral candidates in public institutions of higher education or research. These amendments remove the existence of the CCDCs, *"any individual question relating to the professional situation"* of contractual doctoral candidates now being dealt with by the joint advisory committees of the employing institutions ([article 1-2](#) of decree No. 86-83 of 17 January 1986 on the general provisions applicable to contractual public servants). However, the CCDCs remain competent on these matters until the professional elections of December 2018 and the mandate of their members is maintained ([article 15](#) of the decree of 29 August 2016).

- a public institution of a scientific, cultural and professional nature (EPSCP): universities, Écoles centrales, INSA, Universities of Technology, etc.⁽⁶⁾
- a public institution of a scientific and technological nature (EPST): CNRS, INRA, INSERM, INRIA, etc.
- a public institution of an administrative nature (EPA) for higher education: ENSI, IEP, etc.
- an EPA with a statutory mission of higher education or research.

Other fixed-term contracts

When the legal texts do not allow for a doctoral contract, the employer proposes a work contract providing conditions equivalent to the doctoral contract.

The institutions for which this applies are, in particular:

- a public institution of an industrial and commercial nature (EPIC): CEA, ADEME, CIRAD, CNES, etc.
- a research institution with the status of a foundation, such as the Institut Curie or the Institut Pasteur.

CIFRE

The CIFRE system (industrial agreement for training through research) enables companies governed by French law, as well as administrations and associations, to recruit a doctoral candidate for a CDI (permanent contract) or a CDD (fixed-term contract). The CIFRE work contract of a doctoral candidate is a private law contract, generally a fixed-term contract of 3 years maximum or a permanent contract. It is signed between the company and the doctoral candidate. He receives a salary greater than or equal to 23 484 € (annual salary, gross, excluding employer's contributions, value in 2017⁽⁷⁾).

In order to obtain this agreement, the company makes a CIFRE contract with the ANRT, which will ensure it an annual subsidy of 14,000 euros, paid quarterly. The company then draws up a research collaboration contract with the host unit, no later than six months after the signature of the CIFRE agreement.

All information on this system is available on the ANRT website: www.anrt.asso.fr.

Other private sector contracts

Employees in the private sector wishing to do a doctorate can do so in the context of a company-university collaboration. Apart from the doctoral candidate's salary, the terms of this collaboration must be set out in an agreement adapted to the doctoral candidate's project, taking into account the overall funding of the project (see above).

6. article D711-2 of the Education Code

7. http://www.anrt.asso.fr/sites/default/files/telecharger_la_brochure_cifre_0.pdf

**IMPROPER PRACTICES**

Any system of funding of a doctoral candidate that does not include the signature of a work contract is to be proscribed. In particular, “grants”, “libéralités” or “internship compensations” place the funder and the doctoral candidate’s employer (his doctoral registration institution) in illegality regarding the Labour Code⁽⁸⁾.

Beyond their illegality, these funding systems generally prevent the doctoral candidate from benefiting from social protection (back-to-work allowance, pension premiums for retirement, coverage of accidents at work, parental leave and access to certain family benefits, possibility of extending social security coverage to dependants, etc.) or a residence permit mentioning “*pasport talent*” for foreign doctoral candidates. Moreover, a self-employed doctoral candidate deprives the employing institution of the rights of intellectual property resulting from the work carried out and may hinder, or even compromise, the exploitation of the latter.

In particular, for foreign doctoral candidates, direct funding of the doctoral candidate by the country of origin is inadequate. Indeed, it will place the doctoral candidate in the same conditions, in France, as a doctoral candidate financed by a libéralité. Without a work contract, it is possible that the institution will refuse to provide the doctoral candidate with a hosting agreement (necessary to obtain a *pasport talent*⁽⁹⁾), as this requires for doctoral candidates to specify the “*organism with which the contract is concluded (work contract, temporary public servant contract) on the basis of which the scientist is remunerated*”⁽¹⁰⁾. To ensure that the recruited doctoral candidate has decent living conditions in France, it is preferable for the doctoral candidate to be contracted by the French host institution. The funding used for his remuneration is then paid by his country of origin to the host institution, which may supplement it in order to cover the costs inherent to the contractualisation.

8. See e.g. “*circulaire Monteil*” of 20 October 2006 relative to the resorption of libéralités.

9. [article R313-53](#) of the Code on the entry and residence of foreigners and the right of asylum.

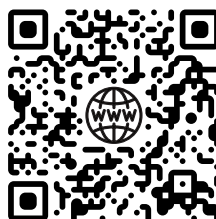
10. [article R313-56](#) of the Code on the entry and residence of foreigners and the right of asylum and [annex II](#) of the decree of 24 December 2007 issued pursuant to Article R. 313-13 of the Code on the Entry and Residence of Foreigners and the Right of Asylum.

CHAPTER V

VALIDATION AND SELECTION OF DOCTORAL PROJECTS

The doctoral school has two central missions in the finalisation of a doctoral project, as set out in articles 3 and 11 of the [order of 25 May 2016](#) relating to the doctorate:

- it validates all doctoral projects ensuring that *“scientific, material and financial conditions are in place to allow the smooth running of the research work”*, regardless of the source of funding;
- it contributes to the allocation of doctoral funding decided by the institution with regard to its scientific policy and human resources.



These steps lead to the creation of a doctoral position and the recruitment of a candidate (see diagram on page 43).

The director of the doctoral school is responsible for the validation of doctoral projects *“following the assessment of the director of the research unit responsible for the quality of the project”* ([article 11](#) of the order relating to the doctorate).

The selection of projects that benefit from doctoral contract funding by the institution is carried out jointly by the institution and the doctoral school, after consultation with the doctoral supervisors involved and the heads of the research units in which the doctoral candidates wish to pursue their research work.

Doctoral candidate representatives are involved in all the collegial decisions of the doctoral school, in the name of the principle of peer recruitment ([article L952-6-1](#) of the Education Code).

Validation of doctoral projects

The doctoral research projects drawn up by the research teams are sent for validation to the doctoral school to which the team belongs. **This validation is necessary for all doctoral projects, whatever the source of funding, prior to the recruitment of a candidate.**

In the interests of transparency and efficiency, the doctoral schools, in accordance with the doctoral policy of their supervising institution(s), design their own specifications, from the procedure for submitting doctoral research projects to the recruitment of doctoral

candidates. These specifications include scientific and managerial criteria. They can be seen as an operational version of the *Code of conduct for the recruitment of researchers*⁽¹⁾, applied to the doctorate.

Validation is based on the research unit's opinion on the quality of the doctoral project and includes the following criteria (described in detail in the chapter 3 *Elaboration of a doctoral project*):

- **scientific aspects:**
 - integration of the project into the scientific policy of the research unit in order to limit the risks of scientific isolation;
 - quality of the doctoral research project: clarity, originality, feasibility of the project (time and means);
- **managerial aspects linked to the research unit:**
 - inventory of the necessary resources and the means of obtaining them, including in particular the salary of the doctoral candidate;
 - integration of doctoral candidates into the unit (hosting the new recruit, access to an office and a computer, participation in the seminars of the research unit, representation on the unit's council, etc.);
 - support for the valorisation of doctoral candidates' results (publications, conferences);
 - database of solved problems in previous doctoral projects and practices for preventing and managing problems within the unit;
 - professional future of doctors that come out of the research unit;
- **managerial aspects related to the doctoral supervisor:**
 - number of doctoral candidates supervised in accordance with the limit fixed by the doctoral school council ([article 16](#) of the order relating to the doctorate) and involvement of the doctoral supervisor in the follow-up of these candidates;
 - appropriate project supervision arrangements: frequency and regularity of meetings between the doctoral candidate and the supervisor, general project monitoring methods;
- **aspects related to the candidate:**
 - candidate profile: required and desired qualities and skills;
 - absence of discrimination.



IMPROPER PRACTICES

The doctoral school cannot require as a selection criterion, in addition to obtaining a master's degree or equivalent, that the candidate has specifically followed a training course, acquired professional experience or passed a hiring contest.

1. https://euraxess.ec.europa.eu/sites/default/files/brochures/eur_21620_en-fr.pdf

If the definition of the project is deemed too vague by the doctoral school, they can ask the research team to amend the project. If the scientific project is not considered adequate for a doctorate (not ambitious enough or too risky for example) or if managerial elements are not in line with the institution's doctoral policy (for example, inadequate or uncertain funding plan, or doctoral supervisor already supervising a maximal number of projects), the doctoral school will ask the research team to revise its project. **No candidate may be recruited on a doctoral project that has not been validated by the doctoral school.**

For projects already financed by a funder other than the institution, the doctoral school also validates their compliance with all the criteria. The importance of this phase should be emphasised. Indeed, the problems that arise during the doctorate often originate in a lack of attention to the definition of the doctoral project. As it is always and in all respects less “costly” to prevent a difficulty than to correct it, doctoral schools must be extremely demanding of research units regarding the quality of doctoral project proposals.

When project leaders wish to obtain funding from the institution, the doctoral school is the structure that proceeds with the selection of projects and the allocation of funding, detailed in the following section.

Selection of doctoral projects for funding by the institution

The doctoral school (ED) selects the projects for which the institution will finance the doctoral candidates. Depending on the location, this funding is called “ED funding”, “university funding”, or formerly “government research grant”.

This selection is carried out according to an open and transparent procedure, following the principles of the Code of conduct for the recruitment of researchers. It is based on public criteria that take into account the scientific and human resources policies of the institution at all levels (research units, doctoral schools, institution).

One or more candidates may be approached for a given doctoral project, for example if they have already worked in the research unit or even with the doctoral supervisor. For the sake of transparency, the profile of the prospective candidates may be attached to the project. In this case, the doctoral school gives priority to the quality of the project and the suitability of the candidate for the project, rather than the excellence of his academic background alone. In particular, the presence of a brilliant candidate does not dispense from the development of a good project. In return, the doctoral school issues an opinion on these candidates, either positive or negative.

The doctoral school classifies the projects according to a main list and a complementary list, giving reasons for its decisions. Recruitment to the doctoral school on one of the projects on the complementary list takes place if one of those on the main list is unsuccessful.



IMPROPER PRACTICES

For the allocation of funding from the institution, selecting candidates rather than projects leads to:

- **time-sensitive organisation problems:** the late allocation of funding, requiring, for example, the evaluation of the internship work of a candidate with a master's, increases the risk that the best candidates are already recruited on a funded project; on the contrary, the selection of projects for the allocation of funding can take place much earlier;
- **shortage of good candidates** for the recruiting doctoral supervisor: holding out the prospect of hypothetical funding will attract far fewer candidates than a funded doctoral job offer;
- **the mismatch between the candidate and the project;**
- **doctoral project of lesser quality** that escapes the opinion of the doctoral school and the research unit.

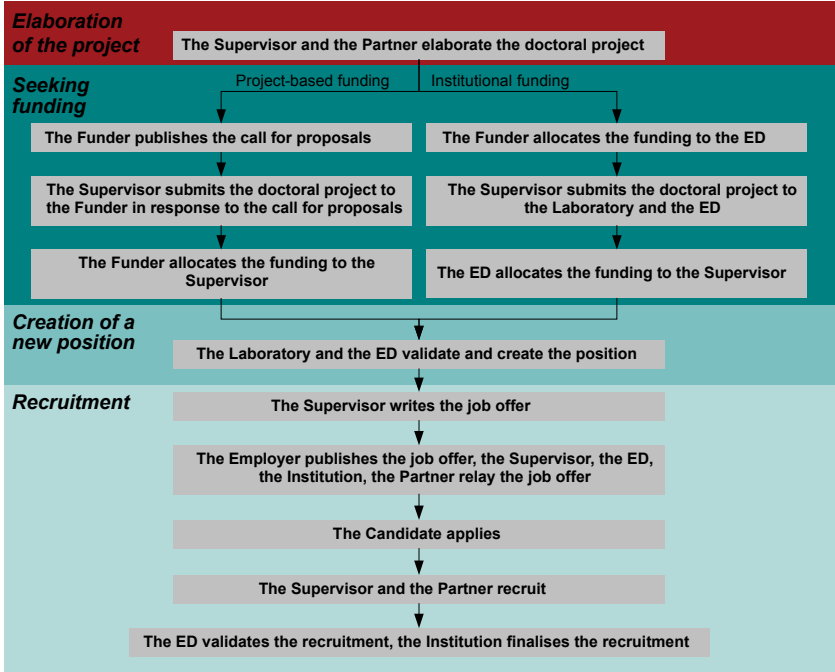
Thus, in order to consider the application of a person whose profile interests a doctoral supervisor (idea for research, previous collaboration, spontaneous application, partnership with a company or another structure), the doctoral project will be drawn up by ensuring that the candidate, the doctoral project and the scientific policy of the host team are in line with each other, under the responsibility of the doctoral supervisor.

Once this stage has been completed, the process of validation, selection of a doctoral project and recruitment is the same as for any other doctoral project.

Launch of the finalised doctoral project

When the doctoral project is validated and has funding, the position is created. The job description is published on the doctoral school's website and disseminated by all available means (see chapter 6 *Publication and dissemination of the doctoral project*). The recruitment of the doctoral candidate then begins (see chapter 7 *Doctoral candidate recruitment procedure*).

Stages of the doctoral project, from the setting up to the recruitment of the doctoral candidate



CHAPTER VI

PUBLICATION AND DISSEMINATION OF THE DOCTORAL PROJECT

Once the doctoral project has been validated by the doctoral school, a doctoral candidate position is created by the future employer and the search for a candidate can then begin. The position is offered to candidates in the form of a job opening.



The three stages of the job posting process are:

- the drafting of the job offer by the doctoral supervisor and its transmission to the employer;
- the initial publication of the job offer which is the responsibility of the employer;
- the actual dissemination of offers by other actors such as doctoral schools, supervisors, partners and institutions, which constitute relays to give the greatest possible publicity to the offer.

Within the framework of a doctorate in *cotutelle*, the modalities of protection of the subject depend on the legislation of the country of the institution with which the *cotutelle* has been signed⁽¹⁾.

Content of the doctoral job offer

The job offer, written according to the content of the doctoral project, is drafted by the doctoral supervisor and then sent to the employer. The schedule will be fixed, leaving a reasonable time between the publication of the offer and the closing date for applications.

The essential information to be displayed is:

- **job title;**
- **description of the host team;**
- **description of the research problem;**
- **missions of the doctoral candidate;**
- **profile and skills required:** the required or desired training, skills and qualities;
- **selection procedures for candidates;**
- **a fixed schedule:**

1. [article 23](#) of the order of 25 May 2016 relating to the doctorate

submission of the offer,
closing of applications,
selection of the candidate,
start of the doctorate;

- **practical information:**
employer,
doctoral supervisor,
contact person for sending the application file,
type of contract,
amount of salary,
funding of the doctoral project;
- **mention of the existence of a prospective candidate.**

Other information may also appear in the offer:

- **the valorisation strategy** of the expected results;
- **the confidentiality of the results:** when there is a restriction on the publication of all or part of the doctoral candidate's results, this may have implications for his career (publications and patents are valued recruitment criteria in the academic sector);
- **working conditions;**
- **planned collaborations,** both with public laboratories and with companies.

Publication of the doctoral job offer

It is up to the employer to publish the job offer, using the most appropriate service (human resources, communication, etc.). To do this, the employer uses a centralisation system for all the job offers it finances, as part of its recruitment policy. This publication serves as a reference to all the relays for disseminating the offer, detailed below.

Dissemination of the doctoral job offer

The dissemination of the job offer is relayed by:

- the **employer**;
- the **doctoral supervisor**;
- the **research unit**;
- the **doctoral school**, in particular on its website: directories of doctoral schools are maintained by the Ministry of Higher Education and Research⁽²⁾ and by Campus France⁽³⁾;
- the **institution(s) of higher education** to which they belong (universities and *grandes écoles*);
- their **partner organisations**: alumni associations of the institution, other higher education institutions, group of institutions

2. <https://appliweb.dgri.education.fr/annuaire/selectEd.jsp>
3. <https://doctorat.campusfrance.org/phd/dschools/main>

to which the institution belongs, companies (for CIFRE doctorates and doctoral projects in partnership with a company), research centres (CNRS, INRA, ONERA, IFREMER, INSERM, CIRAD...);

- learned societies, thematic networks, etc., particularly via **specialised mailing lists**;
- the **associations** such as the Association Bernard Gregory⁽⁴⁾;
- the European Commission's portal **Euraxess Jobs** and other specialised international websites;
- the public (Pôle Emploi, APEC...) or private **recruitment agencies**.

More generally, the candidate can contact laboratories and researchers in order to obtain useful information to target his research, particularly to identify the specialised mailing lists mentioned above.

Doctoral project dissemination schedule

Since a doctoral project can start at any time of the year, **offers are published throughout the year**.

However, most doctoral projects start between September and December, and candidates will therefore find it easier to find offers from May to September of the same calendar year.

Jobs should be advertised for a sufficient period of time for several candidates to apply, allowing the selection of the most suitable candidate.

4. <http://www.abg.asso.fr/fr/candidat0ffres>

CHAPTER VII

DOCTORAL CANDIDATE RECRUITMENT PROCEDURE

The *European Charter for Researchers* and the 2005 *Code of Conduct for the Recruitment of Researchers*⁽¹⁾ provide a clear framework for the principles that should guide quality doctoral recruitment. The introduction reads:

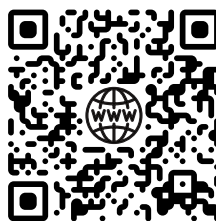
“The code of conduct for the recruitment of researchers consists of a set of general principles and requirements that should be followed by employers and/or funders when appointing or recruiting researchers. These principles and requirements should ensure observance of values such as transparency of the recruitment process and equal treatment of all applicants, in particular with regard to the development of an attractive, open and sustainable European labour market for researchers, and are complementary to those outlined in the European Charter for Researchers. Institutions and employers adhering to the Code of Conduct will openly demonstrate their commitment to act in a responsible and respectable way and to provide fair framework conditions to researchers, with a clear intention to contribute to the advancement of the European Research Area.[...]”

All researchers engaged in a research career should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, namely at postgraduate level, and should include all levels, regardless of their classification at national level (e.g. employee, postgraduate student, doctoral candidate, postdoctoral fellow, civil servants). [...]

Employers and/or funders should establish recruitment procedures which are open, efficient, transparent, supportive and internationally comparable, as well as tailored to the type of positions advertised.”

For a doctoral project, the recruitment process itself is conducted as for any job:

- the candidates **apply** following the publication of the job offer;
- the supervisor(s) and any partners **analyse the applications**, organise a **recruitment committee** and arrange **recruitment interviews**;



1. https://euraxess.ec.europa.eu/sites/default/files/brochures/eur_21620_en-f r.pdf

- the **position is offered** to the successful candidates, in order of preference and depending on withdrawals;
- the doctoral school **validates the chosen candidate** to ensure his suitability for the position profile.

Recruiting a doctoral candidate

Recruitment committee

The doctoral supervisor is the central actor in the recruitment of doctoral candidates. In order to ensure a diversity of points of view, he surrounds himself with people with the appropriate experience to evaluate the candidate (supervisors, collaborators, etc.) ⁽²⁾.

Pre-selection of applications

The selection of candidates starts with a first sorting of the application files to retain a few profiles corresponding to the proposed position.

Interviews

One or more interviews are organised with the selected candidates. The recruitment committee analyses in detail the candidate's career path and professional project, and their relevance to the doctoral project. The interviewer may ask the candidate to specify his research experience, for example by explaining his work during Master 2.

The interview is also an opportunity for the doctoral supervisor to discuss the doctoral project with the candidate and to present the host environment in more detail. He will give attention to his questions. If the interview takes place on the research unit's premises, the doctoral supervisor will take the opportunity to introduce the candidate to other researchers, in particular to any doctoral candidates he is already supervising.

Selection criteria

The committee assesses the overall suitability of each application for the proposed doctoral job offer, including criteria such as:

- the candidate's skills in relation to the profile sought: scientific skills to deal with the proposed research topic, and transversal skills to carry out the research project;
- the coherence of the proposed position with the candidate's professional project;
- the capacity to adapt to a new environment, the future integration of the candidate in the laboratory, etc.

2. "Selection committees should bring together diverse expertise and competences and should have an adequate gender balance", [Code of conduct for the recruitment of researchers](#)

These criteria are evaluated by taking into account the training, the academic results and the examination of previous work (reports, demonstrations, etc.), the professional and personal experience, the geographical and scientific mobility, the communication skills (interpersonal, public, written), the motivation and the reactivity in interviews. Doctoral recruitment excludes all types of discrimination, such as that based on age, gender or geographical origin.

Candidate selection

A final and ordered list of selected candidates is established. Each candidate is informed of his position on the list or of the rejection of his application. Candidates are also informed of the deadline for accepting the position. This period allows candidates a reasonable amount of time to reflect, and takes into account the time constraints of the recruiter. Unsuccessful candidates may also request feedback on the results of the recruitment.

The case of the prospective candidates

A doctoral project can be set up in relation to a prospective candidate before the recruitment phase begins. This situation occurs, for example, when a doctoral supervisor has a strong desire to recruit a candidate who has already worked in the research unit and whose doctoral project coincides with the unit's scientific policy.

In this case, a quality doctoral project must be drawn up (see chapter 3 *Elaboration of a doctoral project*). One should also be aware that there is always some uncertainty about the finalisation of the doctoral recruitment with the prospective candidate. The latter may in fact withdraw for another offer of a doctoral job. It is therefore useful to open the recruitment to other candidates, while informing them that a candidate is being considered.



IMPROPER PRACTICES

When the information concerning doctoral job offers and/or the recruitment process is restricted, unequal or difficult to access, the process is neither open nor transparent, contradicting the principles of the European Commission's [Code of Conduct for the recruitment of researchers](#).

The requirement for transparency guarantees a responsible human resources policy, both for the research unit which ensures the recruitment of the best possible candidate, and for the doctoral candidate who measures the quality of these practices. Thus, doctoral recruitment will be truly transparent if:

- the recruitment offer is published simultaneously on several internal and external communication media;

- the selection criteria are all made public and are in particular easily accessible by the candidates, the doctoral school, the employer and the evaluation bodies;
- the composition of the recruitment committee is made accessible to the candidate and to all the other actors involved in the project;
- after the selection process, unsuccessful candidates are informed of the reasons why their application was rejected.

Validation by the doctoral school

The doctoral school validates the chosen candidate in order to ensure his suitability for the position profile. This validation will ensure the favourable opinion of the director of the doctoral school for the administrative enrolment in the doctoral programme, in accordance with [article 11](#) of the order of 25 May 2016 relating to the doctorate.

In the absence of validation, the doctoral supervisor will propose another candidate to the doctoral school, following the list of successful candidates established beforehand.

To be recruited for a doctorate

Studying job offers

The candidate enquires about published vacancies to determine if he wants to apply for them. He can deepen his knowledge of the proposed project, the host team, their previous and current work, in order to adapt his application to each offer. He also ensures that funding is guaranteed for the entire duration of the doctoral project, in the form of a work contract with a salary level at least equivalent to the reference amount of the doctoral contract. This information can be obtained through various sources such as the recruiting doctoral supervisor, the research unit's website, colleagues, teachers and other contacts in the candidate's environment.

Application file

The candidate prepares a specific file for each offer he has selected. The composition of the file is indicated in the job offer and generally includes a curriculum vitae, a letter of motivation and any useful additional documents: diploma and transcript of marks at master level, letter of recommendation, etc.

It is important that the application file shows the match between the candidate's profile and the job offer. For the motivation letter, he will refer to the reasons that lead him to prepare a doctorate (see chapter 2 *Motivations: from idea to project*), in particular his professional project. It will be in his interest to explain his motivation to

work in the research unit and the concordance of his skills with the expected profile. He may also refer to the selection criteria indicated in the job offer, in particular any experience of geographical and scientific mobility.

Interviews

If selected for an interview, the candidate presents his career path and professional project, and its relevance to the job offer. He may in particular detail his research experience, for example by explaining his previous work (during his Master 2).

The interview is also an opportunity for the candidate to ask additional questions about the doctoral project and the overall host environment. If the interview takes place on the premises of the research unit, he may take this opportunity to meet other researchers, in particular the doctoral candidates supervised by the doctoral supervisor.

Selection criteria

During the whole recruitment procedure, the candidate should make use of any element likely to show the adequacy of his profile with the proposed offer.

To do this, he can refer to his training, academic results and previous work (reports, demonstrations, etc.), professional and personal experience, geographical and scientific mobility. He should illustrate his communication skills (interpersonal, public, written), and show motivation and reactivity during the interview.

These elements allow him to show that his profile meets the criteria sought in terms of:

- expected skills in relation to the position: scientific skills for dealing with the proposed research topic, and transversal skills to carry out the research project;
- coherence of his professional project with the proposed position;
- ability to adapt to a new environment, future integration into the laboratory, etc.

Doctoral recruitment excludes all types of discrimination, such as that based on age, gender or geographical origin.

Response to a job offer

The candidate enquires about the time limits for decisions and the procedure for withdrawals: creation of a complementary list, time limit for responses from candidates, etc. When the candidate is offered the post, he may ask for a reasonable period of reflection for the recruiter and for himself, before giving a final answer. If the applicant is successful in more than one position, he shall inform the persons concerned of his decision within the set time limit.

In accordance with [article 11](#) of the order of 25 May 2016 relating to the doctorate, the validation of the recruitment by the director of the doctoral school conditions the administrative enrolment in the doctorate. It follows the verification by the doctoral school of the candidate's suitability for the job profile.

The case of a doctoral project in the continuity of the master's degree

The candidate may have been in contact with a doctoral supervisor while the latter was setting up the doctoral project, before the recruitment phase began. This situation occurs, for example, when the candidate has already worked in the research unit.

In this case, the candidate should:

- ensure that a **quality doctoral project** (see chapter 3 *Elaboration of a doctoral project*) is proposed by the future doctoral supervisor;
- be aware that there is always **an uncertainty about the finalisation of the recruitment** with the prospective candidate: the doctoral supervisor may change his mind about his recruitment priorities; the project may be subject to various hazards;
- think about the advantages of **staying in an environment where he already has experience** (capitalising on the work already done) or **finding another project** (discovering another work environment, diversifying his skills and collaborations).

Consequently, as in any job search situation, **it is strongly recommended that the candidate not be satisfied with a single application for a doctoral project**, however confident he may be about his recruitment.



IMPROPER PRACTICES

Enrolment is not automatic for any candidate who wishes to prepare a doctorate. As the doctorate is a professional research experience, it follows a real recruitment procedure, after the validation of the doctoral project. Thus, it is risky for a doctoral candidate to accept a proposal for doctoral supervision from a researcher who has prepared a doctoral project whose financing (particularly the doctoral candidate's salary) is not guaranteed.

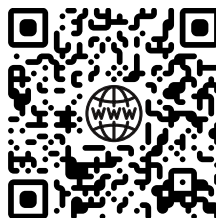
As doctoral candidate recruitment is an open and transparent process, in accordance with [the European Commission's Code of Conduct for the Recruitment of Researchers](#), it is risky to apply for only one doctoral project, for example with the thesis supervisor of the master student.

CHAPTER VIII

FINALISATION OF RECRUITMENT

Once a doctoral candidate has been selected and has accepted the job offer, the recruitment process ends with three steps:

- The signature of the doctoral charter and of the doctoral training agreement;
- the signing of a work contract;
- the enrolment in the doctoral school and in the institution.



It is accompanied by possible additional administrative procedures if the doctoral candidate is not of French nationality.

Signature of the doctoral charter and of the doctoral training agreement

The doctoral charter⁽¹⁾ is a document proposed by the doctoral school, under the responsibility of the accredited institutions, which regulates the rights and duties of the main actors of the doctorate.

This document is approved by the director of the doctoral school, the director of the host research unit or team, the doctoral supervisor and the supervisors. The doctoral candidate and the doctoral supervisor sign this document at the time of the first doctoral enrolment. Before signing, the parties may have a discussion in order to clarify the meaning of the different points of the charter.

Signing this charter is not the same as signing a contract, in particular a work contract. Nevertheless, its provisions have a regulatory value⁽²⁾. It is also a moral commitment between the parties.

In order to guarantee the best possible relations between the different actors of the doctorate, the doctoral charter includes the following elements:

- the terms and conditions of supervision and monitoring of doctoral training;
- mediation procedures;

1. [article 12](#) of the order of 25 May 2016 relating to the doctorate introduces the obligation for each doctoral school, under the responsibility of the accredited institutions, to define the terms of a doctoral charter.

2. <http://cjc.jeunes-chercheurs.org/expertise/chartes-des-theses/jurisprudence.php>

- the commitment of the doctoral candidate to respond to any request for information relating to his professional future after the doctorate.

It is also recommended that the following elements be integrated into the charter:

- the explicit and transparent criteria for defining doctoral projects, for their selection and for the recruitment of candidates;
- material conditions for carrying out the research project, the necessity of funding of the research activity;
- maximum number of doctoral candidates supervised by a doctoral supervisor as defined by the doctoral school council⁽³⁾
- the procedures for reporting any form of discrimination and harassment.

The institution can extend the issues by specifying, for example, the arrival to the laboratory, the specificities of doctoral candidates in a *cotutelle* programme, etc. A clear, well-defined charter, covering all aspects of the doctorate, makes it possible to accurately present the various stages of the doctorate and serves as a reference document for all involved.

In June 2016, the CJC proposed a model charter that can be directly adopted by each doctoral school under the responsibility of the accredited institutions⁽⁴⁾.

In application of this charter, a doctoral training agreement mentions specific elements of the doctoral candidate's research project. It is signed by the doctoral candidate and the doctoral supervisor. The elements noted in this agreement are, in particular:

- the fact that the doctoral candidate will be working full-time or part-time; in the latter case, the professional status of the doctoral candidate is specified;
- the schedule of the research project;
- the terms of supervision, training and progress of the doctoral candidate's research;
- the material conditions for carrying out the research project and, if applicable, the specific safety conditions;
- the terms of integration into the research unit or team;
- the doctoral candidate's professional project;
- the individual training programme in relation to this personal project;
- the objectives of valorisation of the doctoral candidate's research work: dissemination, publication and confidentiality, right to intellectual property according to the field of the doctoral programme.

3. as defined by article 16 of the order of 25 May 2016 relating to the doctorate

4. http://cjc.jeunes-chercheurs.org/expertise/charte-du-doctorat/charte_doctorat_proposition_CJC_2016.pdf

This agreement “may be modified as necessary at the time of re-enrolment by agreement signed by the parties. The institution of enrolment is the guarantor of its implementation.” (article 12 of the order of 25 May 2016 relating to the doctorate). The doctoral candidate’s individual monitoring committee ensures that the doctoral charter and the doctoral training agreement are respected (see chapter 11 *Supervision and monitoring of the doctoral project*).

Signing the work contract

As the doctorate is a professional experience, it requires the signature of a work contract, in addition to that of the doctoral charter and the doctoral training agreement. It is therefore important to check that the signed work contract complies with French labour legislation, including for foreign doctoral candidates, as specified in chapter 4 *Funding plan of the doctoral project*. As an employee, the doctoral candidate obtains various rights: the right to professional training, unemployment insurance, health insurance and pension insurance.

The types of contract may vary depending on the employer. Public institutions of higher education or research can offer doctoral contracts, i.e. contracts adapted to the management of a doctoral project which provide certain guarantees, in particular⁽⁵⁾:

- a minimum wage;
- a three-year duration;
- a maximum trial period of two months.

This contract allows the integration of other missions of a researcher: teaching, research promotion, expertise, etc. (see chapter 13 *Activities beyond research during doctorate*). These missions can be integrated into the initial contract or added later by amendment.

Institutions may propose other types of contracts which, most often, do not provide the same guarantees for the doctoral candidate as the doctoral contract. When signing a doctoral contract, it is important to check that it provides these guarantees. To do otherwise would mean that the employer is misusing the term doctoral contract.



IMPROPER PRACTICES

Certain clauses, such as the reimbursement of salaries received if the doctoral project fails, are illegal and therefore do not belong in a work contract.

The signature of the doctoral contract makes the doctoral candidate a temporary public servant, and he is therefore subject to the provisions of the law n°84-16 of 11 January 1984 concerning the

5. <http://cjc.jeunes-chercheurs.org/expertise/contrat-doctoral/>

statutory provisions relating to the public service of the State, and of the [decree n°86-83 of 17 January 1986](#) on the general provisions applicable to temporary public servants.

In the private sector, private law contracts — either fixed-term CDD in accordance with 4° of the [article D1242-3 of the Labour Code](#), or permanent CDI — can be proposed, as in the case of CIFRE. The signing of a contract is accompanied by a compulsory medical examination paid for by the employer ([article R4624-10 of the Labour Code](#), [article 3](#) of decree n°86-83 of 17 January 1986 and [article 2](#) of decree n°88-145 of 15 February 1988). This medical examination takes place before hiring, particularly in the high-risk work environments described in [article R4624-18 of the Labour Code](#).

Enrolment in the institution

In France, the preparation of the doctoral degree requires administrative enrolment in a higher education institution (university or *grande école*) to be renewed each year, according to the [article 11](#) of the order of 25 May 2016 relating to the doctorate. This institution must be one of the accrediting institutions of the doctoral school to which the future doctoral candidate's research unit belongs. The doctoral supervisor, whose opinion is requested for the doctoral enrolment, must be attached to this doctoral school.

Generally, the enrolment procedure consists of completing a file containing administrative data and paying a “tuition” fee. These fees may be reimbursed by the employer.

During the enrolment process of the future doctoral candidate, the director of the doctoral school validates the enrolment, upon verifying:

- the content of the doctoral project and its feasibility;
- the qualifications of the future doctoral candidate (Master's degree or equivalent). In certain cases, the head of the institution may, by dispensation and on the proposal of the doctoral school council, enrol in the doctoral programme candidates who have completed studies of an equivalent level abroad or who benefit from the validation of prior learning provided for in [article L613-5 of the Education Code](#). This list of beneficiaries of exemption is presented each year to the doctoral school council and to the research board of the academic council;
- the adequacy between the doctoral project and the scientific policy of the research unit, expressed in the opinion of the director of the research unit ([article 11](#) of the order of 25 May 2016);
- the supervision rate of the doctoral supervisor, i.e. the number of doctoral candidates that he already supervises.

The chosen institution verifies that the candidate has a health coverage within the French health insurance system, as well as other necessary insurances (such as civil liability insurance), and that he

has a work contract covering the three years necessary to complete the doctorate.

Enrolment is validated when the head of the host institution, on the proposal of the director of the doctoral school, gives his agreement and the institution provides the doctoral candidate with a school certificate.

Special case of foreigners

Foreign doctoral candidates must sometimes carry out additional administrative procedures related to their stay in France. They can be assisted in these procedures by various local, national or European programmes and structures. In particular, the service centers of the Euraxess network⁽⁶⁾, spread throughout the country, are dedicated to supporting the mobility of researchers in Europe.

European nationals

Doctoral candidates from the European Union (EU), the European Economic Area (EEA) and Switzerland do not need a residence permit nor a work permit according to the [article L121-1](#) of the Code of Entry and Residence of Foreigners and the Right of Asylum (*Code de l'entrée et du séjour des étrangers et du droit d'asile* — CESEDA), since they carry out a professional activity in France and their work contract provides them with sufficient resources.

Non-EU/EEA/Swiss nationals

Foreign doctoral candidates from outside the EU/EEA/Switzerland must have a temporary residence permit, according to [article L311-1](#) of the CESEDA. The formalities for obtaining this residence permit depend on their situation before the start of their doctorate.

Foreigners present in France before the doctorate

Future doctoral candidates studying in France before beginning their doctorate must request a change of status when renewing their residence permit, in order to obtain a residence permit called “*passport talent*”. To do this, the host institution must draw up a hosting agreement within two months before the expiry of the student residence permit, as detailed below.

If the future doctoral candidate is employed in France in a company, with a residence permit mention “employee”, he keeps this residence permit during his doctorate.

6. <http://www.euraxess.fr/information/centres/search/country/france-1104>

Foreigners living in another country before the doctorate

The future doctoral candidate must apply to the French consulate for a long-stay visa valid as a residence permit “*pasport talent*” (alinéa 9 of [article R311-3](#) of the CESEDA, 4° of [article L313-20](#) of the CESEDA and pages 26 and 27 of the appendix of [circular n°NOR INTV1631686J](#) of 2 November 2016). He will then be given an application for a certificate OFII⁽⁷⁾, which he will have to use upon arrival in France to begin a series of steps with the French Office of Immigration and Integration (medical examination, payment of a tax, validation of the visa, etc.)⁽⁸⁾.

To establish the visa, the future doctoral candidate must present the consulate with a hosting agreement previously prepared by the future host institution⁽⁹⁾.

“*Pasport talent*”

To obtain a residence permit “*pasport talent*”, according to [article R313-53](#) of the CESEDA, the foreign doctoral candidate must present a work contract and a hosting agreement in one of the institutions authorised by [order of 24 December 2007 taken in application of Article R. 313-13 of the CESEDA](#). This hosting agreement is prepared by the public institution employing the doctoral candidate, except in the case of a CIFRE contract, where it is prepared by the legal entity to which the future doctoral candidate’s research unit belongs. The designation of a contact person at the institution for the preparation of hosting agreements, well identified by the members of the research unit (researchers, administrative managers, etc.), will encourage the use of the “*pasport talent*” procedure.

When it is first granted, the duration of this residence permit is the same as the duration of the work contract and the hosting agreement⁽¹⁰⁾. This residence permit may be renewed if necessary, up to a limit of four years if a new hosting agreement is provided (articles [R313-77](#) and [R313-78](#) of the CESEDA), or for the duration of the rights to unemployment in the case of involuntary deprivation of employment, for example at the end of a fixed-term contract i.e. CDD⁽¹¹⁾. It also allows the beneficiary to receive back-to-work allowances, according to the [article R5221-48 of the Labour Code](#).

Lastly, the “*pasport talent*” authorises the holder’s spouse to benefit from a residence permit of the “*pasport talent (family)*” type, according to the [article L313-21](#) of the CESEDA.

7. <http://www.ofii.fr/quelle-est-la-procedure-dans-mon-pays-d'origine>

8. <http://vosdroits.service-public.fr/particuliers/F39.xhtml>

9. *Hosting a foreign scientist*, October 2015, Ministry of Higher Education and Research

10. See the [article R313-42](#) of the CESEDA

11. [article R313-80](#) of the CESEDA and [list of supporting documents](#) for the delivery of a residence permit “*pasport talent*”



IMPROPER PRACTICES

The hosting agreement provided in the appendix to the [order of 24 December 2007 taken in application of article R. 313-13 of the CESEDA](#) includes, for doctoral candidates wishing to obtain a “*passport talent*”, the indication of the “*organisation with which the contract is signed (work contract, temporary public servant contract) on the basis of which the scientist is paid*”. The funding of doctoral candidates enrolled in a French higher education institution by their country of origin is therefore to be avoided. In this case, it is preferable to have the institution where the doctoral candidate is enrolled finance him, possibly supplemented by the institution itself by creating a doctoral contract as mentioned in chapter 4 [Funding plan of the doctoral project](#), or another contract of shorter duration in the case of a *cotutelle*. This solution clarifies the working relationship between the doctoral candidate and the host institution, avoiding several risks for the latter (legal, tax, insurance, work accidents and intellectual property).

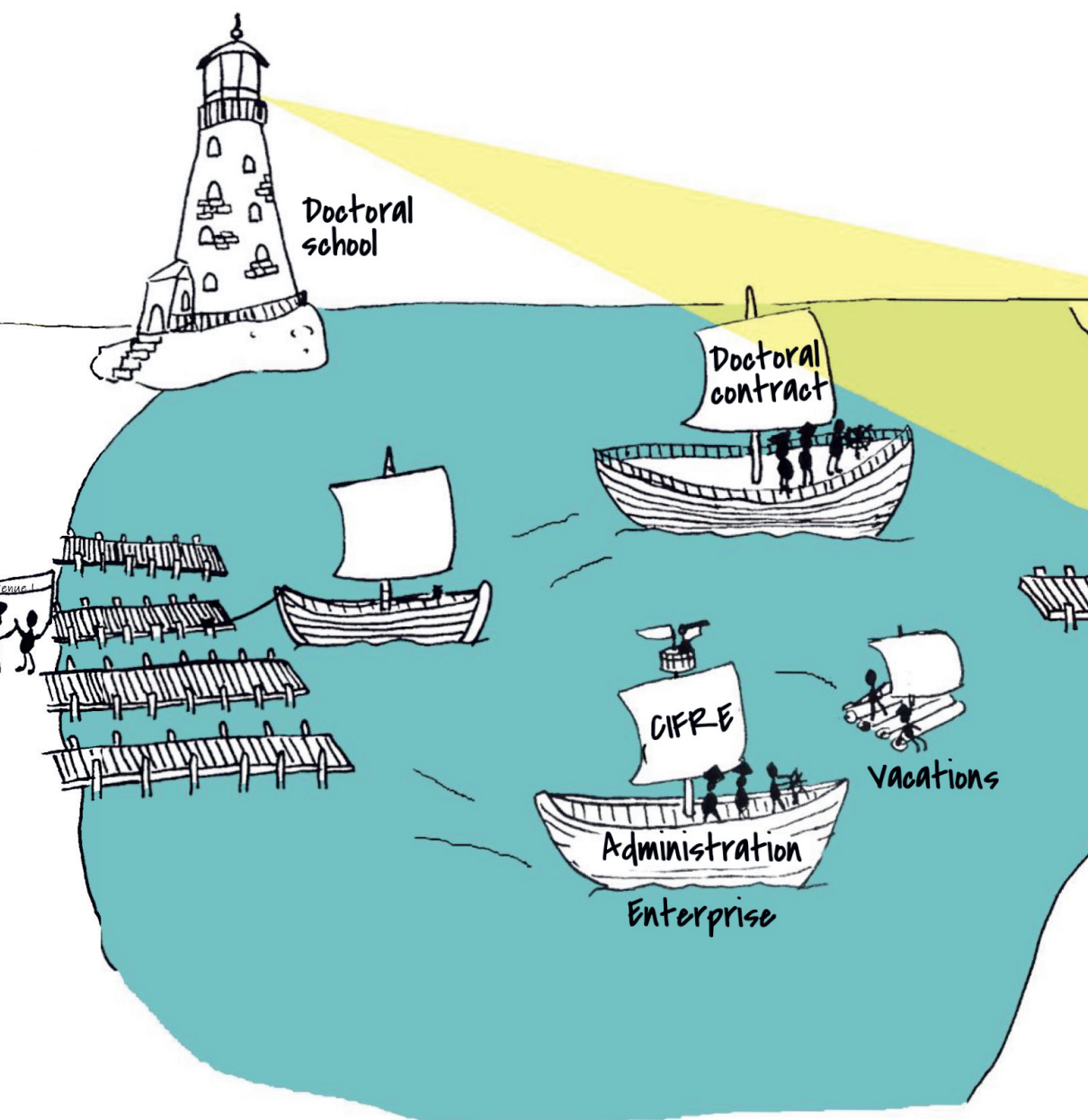
The residence permit with a mention “student” is sometimes given to doctoral candidates, due to the attribution of a student card at the time of enrolment for a doctorate.

This status presents several problems:

- the limit of working 60 % of a full-time per year according to articles [L313-7 of the CESEDA](#) and [R5221-26 of the Labour Code](#), or the need to apply for a temporary work permit for full-time work, according to articles [R5221-3](#) and [R5221-7 of the Labour Code](#);
- the impossibility of registering on the lists of job seekers and benefiting from back-to-work allowances according to the [article R5221-48 of the Labour Code](#) in the event of premature termination of the doctorate without obtaining the diploma, because of ineligibility for a residence permit with the mention “job search or creating a company”;
- the need to go through the restrictive procedure of family reunification in order to be joined in France by one’s family⁽¹²⁾.

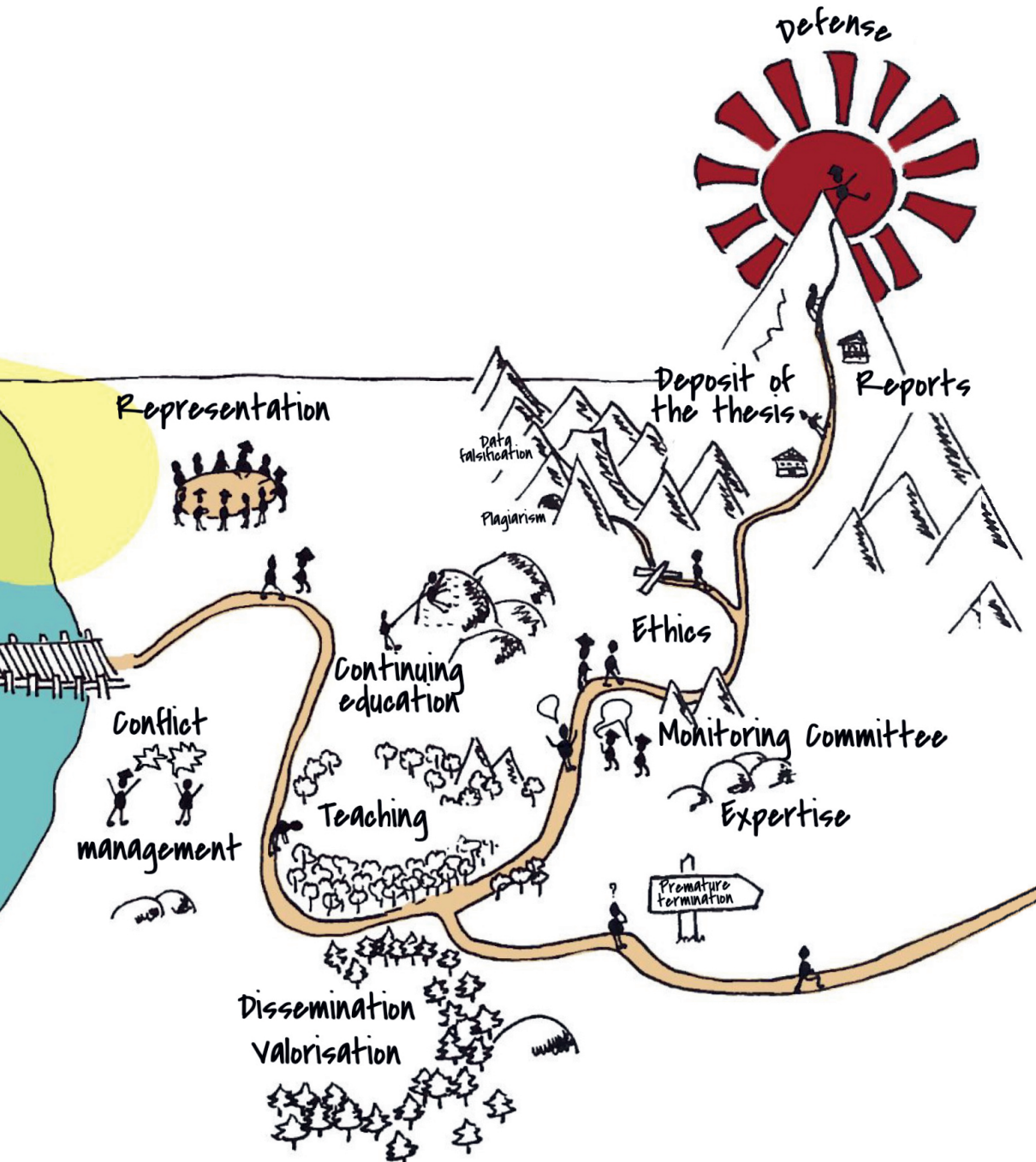
To avoid these inconveniences, it is necessary that one of the institutions supervising the research unit that will host the foreign doctoral candidate establishes a hosting agreement beforehand, in order to launch the procedure for a visa or residence permit “*passport talent*”.

12. <https://www.service-public.fr/particuliers/vosdroits/F11166>



Second part

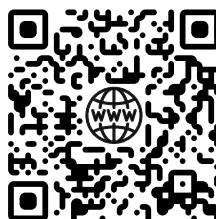
During the doctorate



CHAPTER IX

INTEGRATION OF NEW DOCTORAL CANDIDATES

Becoming a doctoral candidate is an important change of status whereby the former student becomes a early-stage researcher or even a teacher-researcher integrated into the research team that hosts him ([article 11](#) of the order of 25 May 2016 relating to the doctorate). Among his new colleagues may be his former teachers.



This change is all the more delicate as many messages may seem contradictory: the doctoral candidate retains a student card, with both a user and staff status in the eyes of the administration. The reception of the new doctoral candidate is an opportunity to discuss the implications of his new status as a researcher as well as his new missions.

As a junior employee entering a new professional environment, the doctoral candidate benefits from an appropriate welcome procedure within the different structures in which he will carry out his activity or with which he will interact (doctoral school, research team, research unit, company, institution, employer, association structure). This clearly defined welcome procedure enables him to be quickly integrated and therefore operational in this new professional context.

Place of the doctoral candidate within the host institution

The doctoral candidate within the institution of enrolment

The doctoral candidate is guided through the enrolment procedure within the institution. During this process, he is made aware of the decision-making structures and democratic life of the institution, as well as human resources management (continuing professional education, payroll, etc.).

Various services provide support for research and it is necessary to be aware of them: the documentation, industrial relations or international relations services.

In addition to the obligatory medical examination at the time of hiring (see chapter 8 *Finalisation of recruitment*), a follow-up by the employer's occupational medicine is carried out during the doctorate (article 108-2 of law n°84-53 of 26 January 1984, articles 22 to 25 of decree n°82-453 of 28 May 1982, article R4626-26 of the Labour Code, circular MFPPF1122325C of 8 August 2011).

Other services may be offered in the institution of enrolment, for example:

- help in finding accommodation;
- sports associations and infrastructures;
- cultural associations;
- language courses.

Doctoral candidates can usually find out about all the services available to them by exploring the institution's website.

Doctoral candidates in companies also have access to the advantages offered by the company committee. For researchers in mobility, the service centre Euraxess⁽¹⁾ can provide precious help.

The doctoral candidate within the doctoral school

The various roles of the doctoral school are presented to the doctoral candidate upon arrival:

- how it works: presentation of the director, the council, the elections of the representatives of the doctoral candidates, the administrative structure and the procedures;
- the doctoral charter: it governs the relations between the different actors, their rights and obligations as well as the conditions for the authorisation of the defence;
- training: training offer, enrolment procedure, validation rules;
- follow-up of doctoral projects: follow-up mechanisms, procedure for the defence, mediation procedure in case of conflict; presentation of career prospects, statistics on the future of doctors.

Integration into new workplace

The place of work is not necessarily on the premises of the institution of enrolment. It can also be a laboratory under the supervision of the enrolment institution, an institution other than the enrolment institution or a research institution, an association or a company.

Before the official welcome, the new doctoral candidate is sent all practical information (location, contact telephone number, access

1. https://euraxess.ec.europa.eu/information/centres/search/field_esc_expertise/career-development-1219

conditions, etc.) that may facilitate his arrival. The doctoral candidate is informed of the starting time and date of his appointment, as well as the place where he should report.



IMPROPER PRACTICES

Doctoral candidates, as professionals, must be able to benefit from a specific place of work. This condition is not always met by the host institutions. Doctoral candidates without their own workplace are thus obliged to work at home, in the library or in other public spaces, even when their work does not justify it. These practices have many negative consequences: isolation, lack of distinction between private and professional life, difficult management of working time, insufficient proportion of work done in teams, etc. An appropriate work space, on the other hand, allows the new doctoral candidate to organise his work, to socialise with colleagues in his team and to fully appreciate his new status as a research professional. These material aspects have positive repercussions on the quality of research work and on the management of deadlines. It is the duty of the institutions to ensure the provision of a suitable working space for its doctoral candidates.

Access to the premises and internal regulations

The doctoral candidate is informed of the plan and the means of access to the building, as well as the opening hours and the modalities of work outside working hours. He will be given all the necessary keys, badges and codes for the places where he will be working.

A visit of the premises is carried out with the hygiene and safety coordinator who explains the corresponding rules. Finally, the doctoral candidate receives a copy of the internal rules and regulations and is expected to respect them. There may be mention of certain constraints concerning schedules (compulsory attendance periods, closing of the premises), absences and leaves of absence. These regulations also recall the rules of hygiene and safety, the organisational chart, and a certain amount of administrative information (useful telephone numbers, people to contact for various specific questions, etc.). If applicable, the doctoral candidate will be presented with the specific safety conditions indicated in the doctoral training agreement signed between the doctoral supervisor and the doctoral candidate ([article 12](#) of the order of 25 May 2016 relating to the doctorate).

Access to work resources

The doctoral candidate is allocated a personal work space: desk and workbench if applicable, supplies, etc. The provision of a computer,

together with the creation of a computer account and an e-mail address, are also required to facilitate the integration of the early-stage researcher as a professional within his research unit.

Other tools allow the newcomer to get to know his work environment, such as registration on the mailing lists, in the directory, the organisational chart, the creation of a personal page on the website of the working group, access to the bibliographic resources or to the reprography service (printing of articles, posters, etc.). Personalised business cards are provided to the doctoral candidate in order to facilitate his integration into the scientific community.

Place of the doctoral candidate in the new working group (team, unit)

The new doctoral candidate must quickly integrate into the working group that is his new team and research unit, in order to facilitate his professional interactions as often as his work requires. The hosting of the doctoral candidate in his research unit must clearly mark his change of status. The doctoral candidate is a professional recruited within the unit. The hosting process, described in the doctoral training agreement signed between the doctoral supervisor and the doctoral candidate ([article 12](#) of the order of 25 May 2016 relating to the doctorate), enables the latter to take on this new status as soon as possible and to adopt a corresponding position and attitude, different from that which he may have had as a master's student for example.

The relationship with the doctoral supervisor

The doctoral supervisor details the management procedures during the launch meeting of the doctoral project (see chapter 10 [Launch of the doctoral project](#)): organisation of interactions and follow-up of the work, important deadlines, provisional schedule. He introduces the doctoral candidate to the other members of the work team.

Introduction of the members of the working group

The doctoral candidate gets to know his new colleagues (researchers, administrative and technical staff), their functions and the competences of each. He is informed that his research work may give rise to collaborations with researchers other than his doctoral supervisor and that he is invited to take part in the collective activities of his unit (seminars, meetings, etc.).

Presentation of the doctoral candidate to the working group

The doctoral candidate is introduced to the working group through his past experience, skills and doctoral project. This step allows the members of the working group to take into account the arrival of a new colleague and his impact on the life of that group (new skills, new collaborations, etc.)

Presentation of the scientific policy

The doctoral candidate will be informed of the current scientific policy of his unit and team, of the research axes and collaborations, of the technical platforms, of the data or knowledge bases, of the resources, etc. They will also be informed of the possibilities of travelling for professional purposes to conferences or training courses, in France or abroad. The strategy of confidentiality, valorisation and dissemination of the results of the research work (publication, patent, etc.) will be presented.

Presentation of collective activities

The life of a research unit is rhythmized by periodic events in which doctoral candidates participate, such as team and laboratory meetings as well as seminars. The doctoral candidates become aware of the rules of collective life: meals, breaks, schedules, holidays, common tasks, use of common resources, etc.

The doctoral candidate will also be informed of the budgetary procedures (contacts, authorisations, amounts), to establish the missions and the possibilities of reimbursements, for purchases (books, equipment, professional travel, etc.).

Activities beyond research

Professional activities

Contractual doctoral candidates have the possibility to carry out complementary activities counting up to 1/6 of their annual service. Doctoral candidates with other statuses can also combine or integrate activities other than research into the preparation of their doctorate. All these different activities imply the integration of the doctoral candidate in a team (educational team for teaching, for example). The doctoral candidate is invited to meet and interact with this team. He may also adjust his schedule, in consultation with the doctoral supervisor, in order to carry out his complementary mission. He then has access to all the tools available to the other team members. For teachers, this means, for example, obtaining a photocopy card, the possibility of reserving and accessing rooms, partial reimbursement of transport costs, etc.

Activities that facilitate integration

Activities in early-stage researchers' associations or participation in various academic or non-academic representative bodies facilitate the integration of the doctoral candidate. They allow him to extend his network and to discover other aspects of doctoral life and research management.

Associations that are useful to early-stage researchers can be involved in the integration process of new doctoral candidates. Associations are a source of new encounters and should not be neglected in the integration process of new doctoral candidates. They can provide valuable help for a certain number of administrative procedures, and are a source of fulfilment in various projects throughout the doctorate.

The function of doctoral candidate representative on one or more councils of the doctoral school, the institution of enrolment, the research unit or the company, allows one to be at the heart of the decision-making bodies. It provides in-depth knowledge of the organisation and structuring of research, which is invaluable whatever your career path. It also allows for regular contact with the early-stage researchers that the doctoral candidate represents, both to convey their concerns and to keep them informed of decisions that concern them.

CHAPTER X

LAUNCH OF THE DOCTORAL PROJECT

The launch of the doctoral project is a key step in establishing a global framework, with multiple issues at stake:

- integrating the doctoral candidate and his work into a professional organisation, the research unit;
- initiating the research work itself;
- initiating the rise in competence of the doctoral candidate as a researcher in training and future doctor.



It is important that the doctoral candidate and the doctoral supervisor plan a meeting to launch the doctoral project. This meeting takes place as soon as possible after the doctoral candidate is hired. Its purpose is to allow the doctoral candidate to start his research work with a clear vision of the objectives, the expected work, the implementation, follow-up and validation procedures. This meeting is essential even if the doctoral project is a continuation of the work of a Master 2.

The main points of the discussion are the subject of this chapter.

Integration into the professional environment

The doctoral candidate's supervisor will check with the doctoral candidate that he is integrating well after his recruitment, and will assist him in case of problems. The doctoral candidate can take advantage of this opportunity to express his feelings about starting out in a new professional environment. This integration within the institution, the doctoral school, the research unit and the research team, with its administrative and human dimensions, is described in the chapter 9 *Integration of new doctoral candidates*.

Organisation of work

General scientific objectives

The doctoral supervisor recalls and specifies the scientific objectives of the doctoral project already stated at the time of recruitment. This involves detailing the research problems, its scientific stakes in the current scientific landscape and in the context of the research unit, the actors involved (collaborators, users, funders, etc.).

Identification of the main dimensions and stages of the work

To carry out his work, the doctoral candidate will have to articulate bibliographical research, fieldwork, manipulations and experiments, periods of analysis, reflection, writing and valorisation. He must also call upon different research fields.

The doctoral supervisor gives an overview of these main dimensions, specifying the skills required, the actors involved and the planned collaborations. He will relate the research fields concerned by identifying the main conceptual and methodological tools, the difficulties and limits encountered in these fields. He states the risks and uncertainties linked to the doctoral project, and the alternative solutions envisaged.

A provisional agenda is established based on the key stages identified, the time constraints and the requirements of the doctoral school. It allows for the planning of missions requiring particular logistics, such as travel or experiments, and details the administrative procedures to be carried out.

The doctoral supervisor provides the necessary information on the possible ways of promoting the research and their importance according to the discipline, local practices, the expectations of the scientific community and the project: filing of patents, publications, conferences or study days, etc. The doctoral candidate must take this into account when drawing up his research project schedule, and be informed of events and offers by the doctoral supervisor.

Implementation of the methodological framework

The doctoral supervisor specifies the methodological framework to be used for the conduct of the research work. As the doctoral candidate is a novice researcher, he is in the process of learning the methodology of research work and the methodologies specific to his field of study. It is therefore useful to return to the main dimensions established previously in order to clarify the methodologies to be put in place.

The first tasks: the state of the art

The research work generally begins with this key stage, which consists of taking note of the work carried out in relation to the subject being treated. This is necessary both to launch into innovative work - and avoid duplicating what already exists -, and to be aware of the difficulties of the problems posed, i.e. not to tackle an insurmountable difficulty. Generally speaking, it is therefore a question of the doctoral candidate rapidly acquiring an expertise that will allow him to make the right choices in the first phases of his work.

The bibliography mentioned in the project serves as a starting point for a more in-depth analysis of the state of the art. The doctoral supervisor specifies how to approach this first important step. He defines the priority readings and invites the doctoral candidate to critically examine them. This approach leads the doctoral candidate to become familiar with his subject, and to refine it by identifying scientific obstacles and other issues.

The doctoral supervisor specifies the local conditions of access to scientific literature. If the doctoral candidate's training in bibliographic research requires further study, the doctoral supervisor provides methodological advice to facilitate this stage.

Acquisition of skills

The doctoral supervisor details the skills expected of a doctor in general and the specific skills required for the research project to be carried out.

The acquisition of these skills can be done by several means: training, reading, practical experience, collaboration, etc. The ways in which these skills are acquired are therefore discussed.

Some of the skills are acquired through training, which is similar to continuing professional education (see chapter 12 *Continuing professional education for doctoral candidates*). These training courses are disciplinary or transversal, useful for the realisation of the doctoral candidate's doctoral or professional project. The doctoral supervisor informs the doctoral candidate of the structures offering these courses (doctoral school, institution, employer, research unit, etc.) and of the possibilities of external training courses such as summer schools. In the latter case, the doctoral supervisor provides the necessary funding.

Monitoring arrangements

The doctoral supervisor and the doctoral candidate agree on the modalities of monitoring of the research work. Monitoring takes place mainly during frequent meetings between the doctoral candidate and his doctoral supervisor, aimed at reviewing the progress of the work, dealing with any problems encountered, and planning

the work to be carried out. The frequency of these meetings is established and can then be modulated according to the progress and needs of the doctoral project.

The doctoral supervisor proposes a work methodology and organisational solutions to the doctoral candidate, allowing him to regularly monitor his own work, for example by means of laboratory notebooks or by writing up the minutes of meetings. This traceability makes it possible to measure the progress, stimulates reflection and writing in order to facilitate the management of the doctoral project, serves as a reference for the common work of the research team and also leaves an indispensable trace in case of conflict.

Finally, the doctoral supervisor makes the doctoral candidate aware of the rules of academic ethics, by alerting him, for example, to bad practices of plagiarism or falsification of results.

Methods of validation of research work

The doctoral supervisor informs the doctoral candidate of the deadlines for the progressive validation of the work carried out and the adaptation of the doctoral project according to its progress. This generally takes the form of progress meetings and summary reports. In addition, the progress of the doctoral candidate's research project is checked each year by the doctoral school, in particular through the doctoral candidate's individual monitoring committee⁽¹⁾, which provides an external view of the project. This committee may request presentations of the project by the doctoral candidate and the doctoral supervisor, in turn, in order to give an opinion on the progress of the work. Other objectives of the meetings of this committee, such as discussions about the professional project, are detailed in chapter 11 *Supervision and monitoring of the doctoral project*. Depending on the context, other actors may ask to progressively validate the work: company and other partners, funder, etc.

The writing of the thesis and the defence at the end of the three years of work are the final validation stages of the doctoral project. The launch meeting is an opportunity to explain to the doctoral candidate what is at stake at these stages, particularly in terms of the provisional schedule and with respect to the doctoral candidate's professional project.

In addition to the previous mechanisms specific to the doctorate, the validation of the work is also done, as for any research work, via publications, presentations in national and international conferences and in research unit seminars. These milestones allow the validation of the work, its dissemination, the awareness of its impact and its reception in the research community. The launch meeting of the doctoral project is an opportunity to start thinking about the publication and promotion strategies under consideration.

1. [article 13](#) of the order of 25 May 2016 relating to the doctorate

CHAPTER XI

SUPERVISION AND MONITORING OF THE DOCTORAL PROJECT

The doctoral supervisor is the central actor in the supervision and monitoring of the doctoral candidate's research project, whom he guides and trains during regular and frequent meetings. This support, which evolves as the doctoral candidate gains autonomy, concerns various aspects of managing a research project: management of time, resources, collaborations, validation of objectives and results, discussion of the strategy for valorising these results, etc. The doctoral supervisor holds an HDR i.e. habilitation to conduct research, unless an exemption is approved by the research board of the academic council.



The doctoral school supports the doctoral supervisor in monitoring the doctoral candidate. It sets up monitoring mechanisms to ensure the quality of doctoral research, assists the doctoral candidate in the preparation of his professional project, checks that he is acquiring the skills expected of a doctor, and assists the doctoral supervisor by setting up specific training or support. This monitoring takes the form of an annual progress report which allows the doctoral school to validate the continuation of the doctorate (made concrete by the re-enrolment), and then to validate the defence. The preparation of a doctoral training agreement, which specifies the context of the preparation of the doctorate in application of the doctoral charter, and the creation of a portfolio in order to list the activities carried out during the doctorate while highlighting the acquired skills, also contribute to the supervision and monitoring of the doctoral project, in application of the [articles 15](#) and [16](#) of the order of 25 May 2016 relating to the doctorate.

Management of the research project

Role of the doctoral supervisor during the doctoral project

A doctoral project is carried out under the responsibility of a doctoral supervisor. He is responsible for supervising the scientific work of the doctoral candidate recruited to carry out the project.

The doctoral supervisor monitors the work of the doctoral candidate and manages his development of skills. He passes on his know-how, research methodologies, scientific project management and strategic guidance techniques. He anticipates his difficulties and enables him to solve them so that a quality work can be completed on time and with the given means. He does everything possible to ensure that the doctoral candidate he supervises adopts a professional and responsible behaviour.

The doctoral supervisor ensures that the doctoral candidate has a quality working environment and that he has the financial, material and human resources necessary for his research work. These means, provided for in the doctoral project, include, among others, the supply of material to carry out research, access to tools or equipment, and the funding of missions to present and promote their results. The doctoral supervisor also gives the doctoral candidate the benefit of his professional network, for example by helping the candidate participate in thematic conferences, by putting the candidate in contact with other researchers for collaborative work, or by ensuring that the candidate is well integrated into the research unit. He will make the doctoral candidate aware of the ethical requirements in the preparation, realisation and valorisation of his research work, in accordance with the Singapore Declaration on Integrity in Research of 2010⁽¹⁾ (see chapter 16 *Intellectual property and ethics*, section “Research ethics”).

Finally, even if the doctoral candidate benefits from a follow-up in his doctoral school for aspects relating to his professional project, it is desirable that the doctoral supervisor be informed of this professional project and of its evolution. The annual revision of the doctoral training agreement⁽²⁾ and a regular updating of the portfolio⁽³⁾ can be a good opportunity for the doctoral supervisor and the doctoral candidate to discuss this subject. The doctoral supervisor and the doctoral candidate will then be able to adapt the strategy of valorisation of the latter’s work accordingly.

Article 16 of the order relating to the doctorate stipulates that if the doctoral supervisor is neither a professor or equivalent, nor the

1. <https://wcrif.org/documents/313-ss-french/file>

2. https://www.legifrance.gouv.fr/eli/arrete/2016/5/25/MENS1611139A/jo/article_12

3. article 15 of the Order of 25 May 2016 relating to the doctoral degree

holder of a habilitation to direct research, the prospective doctoral supervisor is proposed by the doctoral school and submitted to the opinion of the research board of the institution's academic council. In order to avoid an interruption in supervision, it is important that the doctoral supervisor is aware of the availability required to carry out this role until the end of the doctorate, and that he plans his other commitments accordingly.

In order to acquire or update his skills in the field of supervision, the doctoral supervisor takes advantage of the continuing professional education offer set up by his employing institution, by the supervising institutions of his research unit, or by the doctoral school ([article 3](#) of the order of 25 May 2016).

Role distribution during a co-supervision

All of the responsibilities presented above may be divided between several co-supervisors. In this case, the doctoral supervisor coordinates the responsibilities of the other co-supervisors. The [article 16](#) of the order of 25 May 2016 indicates that, *"when the co-supervision is ensured by a person from the socio-economic background who does not belong to academia, the number of co-supervisors may be increased to two"*.

It is advisable to formalise the co-supervision, in particular by spelling out in writing the role and responsibilities of each of the co-supervisors, and the expectations of the doctoral project in the doctoral training agreement signed between the doctoral candidate and the doctoral supervisor⁽⁴⁾.



IMPROPER PRACTICES

The regulations authorise co-supervision by a person who does not hold a doctorate, who comes from the socio-economic background and who does not belong to the academic world. However, this co-supervision must not be a pretext for assigning to the doctoral candidate missions other than those linked to his research work. Neither should it be a symbolic honorific position, but should correspond to a real contribution of additional skills to the doctoral candidate.

Directly summing up the supervision rates to obtain the number of doctoral candidates per supervisor hides the time spent coordinating between co-supervisors, and the possible additional difficulties of the co-supervisor. It is therefore necessary to take into account the particular situations in order to respect the limit of the supervision rate fixed by the doctoral school council according to [article 16](#) of the decree relating to the doctorate.

4. [article 12](#) of the order of 25 May 2016 relating to the doctorate

Moreover, it happens that the official doctoral supervisor, entitled to supervise research, in practice only has a role of a “figurehead”, whereas the person actually in charge of the doctoral project does not hold an HDR and has no official legitimacy. Such practices are detrimental for several reasons. First of all, the responsibility for the overall supervision of a doctoral project cannot be delegated. This responsibility is incumbent upon an experienced researcher who is qualified to direct research, unless an exception is made.

Secondly, a clear distinction must be made between the supervision of a doctoral project and collaboration. A doctoral candidate is notably led, within his working group, to exchange about his research with colleagues: doctoral candidates, experienced researchers, engineers or technicians. These people are likely to advise him and collaborate occasionally or more regularly on a particular aspect of his work. However, such collaborations do not constitute the supervision of the doctoral project.

Moreover, the practices of acting as a “figurehead” are also problematic in terms of monitoring since they distort, for example, the calculations of the supervision rate made by the doctoral schools, which weakens their effectiveness.

Role of the doctoral candidate in the realisation of the doctoral project

The doctoral supervisor and the director of the doctoral school place the doctoral candidate in the position of a research professional. The successful completion of the doctoral project is based on several issues relating to the active role of the doctoral candidate:

- he is the main producer of the research work and progressively becomes the most expert person on the subject;
- in his subordinate relationship with the doctoral supervisor, he ensures that he provides the information necessary for the monitoring of his work: progress, news, difficulties and problems, etc.;
- his identity as a research professional is constructed in his relationship with his colleagues as equals (researchers, administrative and technical staff, etc.);
- in general, he contributes to the construction and maintenance of the work framework, particularly in the planning, preparation and assessment of monitoring meetings;
- his progressive gain of autonomy as a researcher and his increasing competence give him the status of doctoral project leader, of project manager;
- this implies access to a certain number of management functions: supervising internships, setting up projects, taking initiatives and responsibilities, etc.

Regular monitoring and supervision

The doctoral supervisor regularly monitors the progress of the doctoral candidate's work, the terms of which are defined at the beginning of the doctoral project (see chapter 10 *Launch of the doctoral project*). These terms can evolve during the course of the doctorate, following the doctoral candidate's progressive gain of autonomy.

Effective follow-up is based on written documents; it is therefore essential to regularly record the progress of the research work. The support can be, for example, a laboratory notebook, minutes of meetings, regular summary notes, etc. These writings will serve as support for the various meetings the doctoral candidate will attend, for the writing of articles or the thesis manuscript, etc.

The most important monitoring takes place through regular meetings between doctoral candidate and doctoral supervisor. Depending on the agenda, they may include other people concerned by the doctoral project.

These meetings and their minutes help to ensure the progress of the work and to avoid stagnation. The doctoral supervisor gives the doctoral candidate the benefit of his expertise in the field of research by guiding and advising him, in order to define or readjust the short-term or medium-term objectives of the research project and the valorisation of the results.

During these meetings, the means necessary to achieve these objectives are also discussed, including the use of financial or material means allocated for the doctoral project.

The doctoral supervisor gives the doctoral candidate indications on the human resources to be mobilised for the progress of the project. In particular, he ensures that the candidate is integrated into the research team and the host unit, by giving him the opportunity to present his work. This can be done in all research fields by presentations in seminars within the research team or unit. In this way, the doctoral candidate and his doctoral supervisor will be able to benefit from interesting feedback on their work and to initiate possible internal collaborations with their colleagues. As for the other members of the research unit, they will be able to follow the progress and coherence of the project and find links with their own research.

The doctoral supervisor assists the doctoral candidate in his integration into the scientific network by putting him in contact with other professionals in the field. This is also done with a view to the doctoral candidate's future career. For this reason, the doctoral candidate informs his doctoral supervisor of any evolution of his professional project, so that the latter can advise or guide him to achieve his objectives.

In the case of a co-supervision, the regular monitoring is ensured by all the supervisors, who define an appropriate methodology and

schedule, even in the case of a geographical distance between the supervisors. This methodology specifies the attributions of each of the co-supervisors, so that the doctoral candidate knows to which supervisor to turn, depending on the questions that need to be addressed.

In the case of a *cotutelle* (international collaboration), it is the responsibility of the signatory institutions and doctoral supervisors to ensure, at their level, that their respective counterparts offer good conditions of supervision.



IMPROPER PRACTICES

In the case where a *cotutelle* is established between two countries, regulatory provisions may seem incompatible between the two legislations. Even if, in this case, the doctoral school is authorised to derogate from the provisions of the French regulations on the doctorate, provided that it specifies this in the doctoral *cotutelle* agreement ([article 20](#) of the decree relating to the doctorate), it must then avoid favouring the least restrictive aspects of each of the two national regulations, but must come as close as possible to respecting the rule from which it would derogate.

Modification of the doctoral project

Beyond the necessary and continuous adaptations of the doctoral project in progress, it may happen that it is modified more profoundly for various exceptional reasons, at the initiative of the doctoral candidate, the doctoral supervisor, or another actor. This may result in a change:

- of doctoral supervisor, following a non-conflictual situation, such as a transfer or a death, or a conflictual situation (see chapter 15 *Conflict management during the doctorate*). In the first case, the doctoral school, in consultation with the doctoral candidate and the research unit, must find a replacement solution for the supervisor.
- of the research team or unit: the future of the doctoral candidate is then discussed on a case-by-case basis and depends on the type of contract, the change of institution, the confidentiality of the research, etc.
- of the conditions of funding: exceeding the initial schedule, bankruptcy of the company in charge of the CIFRE, change of research unit or institution, etc.

In the event of a drastic change in the project, whatever the cause, an extension or even a fourth year of the doctorate may be envisaged. Its funding is the responsibility of the supervisor.

According to the [article 7](#) of the decree of 23 April 2009 relating to contractual doctoral candidates, the doctoral contract may be extended by amendment for a maximum period of one year, twice, if exceptional circumstances concerning the contractual doctoral candidate's research work justify it. For other types of contracts, acquired funding is required by the doctoral school for exceptional re-enrolment, beyond the three years.

Monitoring of the research project by the doctoral school

According to the [article 11](#) of the Order of 25 May 2016 relating to the doctorate, the enrolment in the doctorate *"is renewed at the beginning of each academic year"*. Each of the annual enrolments is decided by *"the head of the institution, on the proposal of the director of the doctoral school, after the opinion of the thesis supervisor and, from the third enrolment onwards, the doctoral candidate's individual monitoring committee"*.

Each year, the doctoral school checks the progress of the doctoral candidate's research project in order to formulate its proposal to the head of the institution. This follow-up is carried out in particular through the doctoral candidate's individual monitoring committee, the composition, organisation and functioning of which are defined by the doctoral school council⁽⁵⁾. This committee is composed of people outside the doctoral project management, paying particular attention to situations of conflict of interest. It meets periodically and provides an external view of the project. The individual monitoring committee:

- proposes various courses to the doctoral candidate, in particular in line with his professional project, or to his supervisors;
- prevents all forms of conflict, discrimination and harassment, in particular by alerting the competent services if necessary (occupational health service, gender equality officer, etc.);
- ensures compliance with the doctoral training agreement, in particular:
 - that the doctoral candidate carries out his doctoral research on a full-time basis, or on a part-time basis if he has another professional activity in parallel;
 - that the doctoral candidate can carry out his work in the intended working conditions and is provided with material and pedagogical support;
 - that the schedule for the research project is respected;
 - that the doctoral candidate and his supervisors are effectively following the doctoral project;
 - that a strategy for the scientific valorisation of the results of the doctoral project has been established by the doctoral supervisor and the doctoral candidate;

5. [article 13](#) of the Order of 25 May 2016 on the doctorate.

- ensures that the doctoral charter is respected, in particular:
 - the possibility of recourse to mediation in the event of conflict;
 - access to information concerning career development.

The individual monitoring committee is also a relevant tool to carry out a skills assessment and discuss the doctoral candidate's portfolio.

In order to give a reasoned opinion, the committee may ask for a presentation of the project by the doctoral candidate, and then by the doctoral supervisor, and it will conduct individual interviews, in particular with the doctoral candidate. Recommendations are then issued on the progress of the doctoral project, and forwarded to the director of the doctoral school, the doctoral candidate and the doctoral supervisor. The opinion of the monitoring committee is necessary in the case of an annual extension of the duration of the doctorate, granted by the head of the institution after a reasoned request from the doctoral candidate⁽⁶⁾.



IMPROPER PRACTICES

The individual monitoring committee should not be convened only at the end of the initially planned period of the doctorate nor be limited to its function of recommendation for derogatory enrolments. It is even less a place of sanction.

Finally, regular monitoring of doctoral candidates allows the doctoral school to identify and manage conflicts before they escalate⁽⁷⁾ (see chapter 15 *Conflict management during the doctorate*). Reliable information on the progress of doctorates also makes it possible to set up quantitative indicators, useful for updating recurrent problems and for the decision-making of the doctoral school council. This capitalisation of experiences also constitutes a valuable background for the evaluation of the doctoral school and doctoral education.

Strategy of valorisation of results

Strategy of scientific valorisation of results

The doctoral supervisor guides the doctoral candidate on the valorisation of results, in particular in the academic sector, by indicating the most suitable means of making his results known to the whole scientific community:

6. [article 14](#) of the Order of 25 May 2016 relating to the doctorate

7. Let us recall, if necessary, that conflicts are inevitable in the context of professional interpersonal relations. Of varying nature and intensity, they can even participate positively in the work dynamic, and their management is part of professional life. It is more the absence of conflict management than the conflicts themselves that is problematic.

- presenting scientific papers at a local, national or international conference,
- publication in research reports, conference proceedings, national or international journals,
- filing patents,
- making data, corpora, or software tools available.

He explains to the doctoral candidate the criteria that allow him to choose the appropriate type of valorisation: type of results obtained, target audience, scope of the results, etc. The doctoral supervisor also assists the doctoral candidate in the preparation of these publications or communications, with the doctoral supervisor's participation evolving as the doctoral candidate gains autonomy. Whatever the type of valorisation chosen, the doctoral candidate is cited appropriately (see chapter 16 *Intellectual property and ethics*).

The funding plan for the doctoral project, drawn up by the doctoral supervisor, provides for the financial means to cover the costs generated by the promotion of the project: publication in journals, travelling for presentations at conferences, printing of posters, etc. (see chapter 4 *Funding plan of the doctoral project*).

Strategy for economic and social valorisation

A strategy for the economic valorisation of the results may be intended by the doctoral project, or implemented according to the results obtained. In all cases, the doctoral supervisor and the doctoral candidate remain attentive throughout the duration of the doctorate to the possible transfer of research results to companies or to the society, in accordance with [article L123-5](#) of the Education Code. Opportunities for commercialisation may indeed arise following the emergence of new issues of interest to the private or public sector, or as a function of new skills, tools or knowledge obtained by the doctoral candidate to solve known problems.

If the doctoral candidate or his doctoral supervisor identifies a possible idea of valorisation, they contact the service in charge of the valorisation of research in the institution. The latter studies with them the different options for realisation and their feasibility: publishing a book, filing a patent, partnership with a company or an association, creation of a company, etc.

The doctoral candidate is involved in the choices relating to the strategy of economic valorisation of the results to which he has contributed and will have a fair financial return on the resulting gains (see chapter 16 *Intellectual property and ethics*). If he wishes to become more involved in the activities of transferring the results of research, for example because of his professional project after the doctorate, he can follow some training courses on the subject as part of a continuing professional education (see chapter 12 *Continuing professional education for doctoral candidates*).

Communication of the research results

Widely disseminating the results of research to the general public also contributes to their valorisation. This activity will allow the doctoral candidate to put into practice his communication skills and to naturally follow his professional project i.e. to pursue a career after the doctorate.

Monitoring the professional project

A reflection throughout the doctorate

Beyond the scientific aspects, the doctoral candidate reflects on and prepares his career throughout the doctorate. It is up to the doctoral school and the doctoral supervisor to help him in his reflection. To this end, the doctoral candidate may express his preferences and ambitions during the annual progress review carried out by the doctoral school for the purpose of re-enrolment.

Targeted training and individualised follow-up

It is not always easy to manage the time allocated to the scientific project and the professional project, which is why the doctoral school recommends a certain number of hours of training to be set aside for the construction of the professional project (see chapter 12 *Continuing professional education for doctoral candidates*).

It is also desirable that the doctoral schools set up a system of individualised monitoring by a tutor or career advisor, who accompanies the doctoral candidate with his doctoral supervisor, however without taking away their responsibilities. This tutor advises the doctoral candidate in the search for a balance between his research work and the preparation of his professional project. He has a good knowledge of the job market and is familiar with the institution's doctoral training so as to be able to advise the doctoral candidate as best as possible on the match between his professional project and his choices of continuing professional education. These individualised interviews allow him to think about his career path and the possibilities for orienting his doctorate according to his expectations. They are also an opportunity for the doctoral candidate to benefit from support for updating his portfolio. They can lead to a report that allows the evolution of the professional project to be monitored. On a case by case basis, the tutor may be invited to attend the doctoral candidate's individual monitoring committee. The tutor may or may not come from the doctoral school, and a system of mentoring by former doctoral candidates from the doctoral school or company executives may be set up.

CHAPTER XII

CONTINUING PROFESSIONAL EDUCATION FOR DOCTORAL CANDIDATES

In addition to their activity as researchers, doctoral candidates follow educational courses that are useful for the **realisation of their research work**, their professional development as researchers and the **construction of their professional project**. It is important to underline that these courses are only one of several ways of acquiring additional skills (see chapter 21 *Skills developed during the doctorate*).



These courses are similar to the **continuing professional education** as described in [article L6311-1](#) of the Labour Code, insofar as they favour the development of skills. It is the employer's responsibility to ensure that doctoral candidates adapt to their workplace, notably by proposing education that contributes to the development of their skills. This education is carried out during working time or possibly outside working time under certain conditions ([article L6321-6 to 12](#) of the Labour Code).

These courses are to be distinguished from initial educational courses of the licence or master type. Indeed, the hourly volume of a licence is a minimum of 500 hours per year ([order of 1 August 2011](#)). Moreover, they do not systematically allow for the delivery of an ECTS⁽¹⁾, associated with an evaluation by examination or continuous assessment, contrary to initial education ([article D123-13](#) and [article L613](#) of the Code of Education).

The doctoral schools play a central role in the organisation of this education since they *"offer doctoral candidates educational activities that encourage interdisciplinarity and the acquisition of a broader scientific culture, including knowledge of the international research framework"* and *"ensure that each doctoral candidate receives education in research ethics and scientific integrity"* ([article 3](#) of the order of 25 May 2016 relating to the doctorate).

It is thus the responsibility:

1. https://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf, in particular page 27

- of the employer to propose a diversified continuing professional education to its employees;
- of the doctoral school to organise the continuing professional education offer for doctoral candidates and to evaluate it in the context of quality monitoring;
- of the supervisor and the doctoral candidate to draw up together the latter's individual education plan, in accordance with his doctoral project and his long-term professional project, and to include it in the doctoral training agreement ([article 12](#) of the order of 25 May 2016 relating to the doctorate).

The activities pursued by the doctoral candidate in the context of his continuing professional education are presented, as are his research activities, as well as his non-research activities (see chapter 13 *Activities beyond research during doctorate*) in his portfolio, which summarises them from the point of view of the development of competences ([article 15](#) of the order of 25 May 2016 concerning the doctorate).

Types of education

Scientific education

Scientific education courses allow doctoral candidates to explore new scientific fields useful to their research work. They generally take the form of thematic schools open to all researchers and concentrated over a few days in the case of a very specialised education, or Master 2 courses for more general education.

Professional project support training

Throughout his doctorate, the doctoral candidate will reflect on how to continue his career after this professional experience. This reflection will lead him to change his professional motivations, his vision of research, of the profession of researcher or other professions accessible after the doctorate, and of his own place in society as a future doctor. It is notably fuelled by his own research experience and by exchanges with his doctoral supervisor, other researchers, doctoral candidates or even professionals met during forums between doctors and companies.

The doctoral school offers training in the form of workshops or individual support to develop the professional project and to acquire the appropriate methodologies: assessment of skills and valorisation of competences, preparation for recruitment applications, awareness of careers and professions for doctors, etc.

Transversal training

The transversal skills useful to the doctoral candidate can be developed through training courses, in particular in the following areas:

- ethics: all doctoral candidates must receive training in research ethics and scientific integrity.
- communication: English (oral, written, scientific English), essential language for evolving in the international context of scientific research; French for foreign researchers; basics of oral, written and internet communication; scientific mediation, etc.
- computer science: e-mail management, design of a website, electronic publications, office automation, collaborative work tools, documentary research, bibliographic reference management, team supervision tools, etc.
- project management: project design and implementation, time and priority management, interpersonal communication, team supervision, etc.
- valorisation of research: intellectual property (patents, copyrights, etc.), technology transfer, research marketing, business creation, etc.
- teaching: general principles of teaching, university teaching, innovative teaching methods, etc.

Training organisation

The doctoral school plays an essential coordinating role in the organisation of training. It establishes a training policy, centralises the offer, identifies the needs and lists the courses followed by each doctoral candidate. It evaluates the training courses according to the satisfaction of doctoral candidates and develops its repertoire accordingly (article 4 of the order of 25 May 2016 relating to the doctorate).

The offer includes:

- training courses offered by the doctoral school to which the doctoral candidate belongs, or by another doctoral school, or even by a structure grouping several doctoral schools (doctoral colleges, doctoral training institute, etc.);
- access to training courses at the institution to which the candidate belongs, particularly at the master's level;
- the procedures for attending specialised thematic schools;
- training courses offered to staff by the employer and the other supervisory bodies of the research unit (national education actions and thematic schools of the CNRS⁽²⁾, permanent education at the INRA⁽³⁾, etc.);
- participation in events such as recruitment forums.

Other than continuing professional education, other initiatives on the part of the doctoral candidate can complete the judicious construction of his professional project. In particular, the doctoral candidate may take educational courses offered by an external organisation (URFIST, GRETA, France Université Numérique, Collège de France, etc.) which,

2. <http://carrieres.cnrs.fr/fr/vous-epanouir>

3. <http://jobs.inra.fr/Vivre-a-l-Inra/La-formation-permanente>

once completed, may be validated by the doctoral school. In order to be useful and to take place in good conditions, these educational courses must be coherent with the doctoral candidate's professional project.

The funding of these courses is taken care of by the research unit, the doctoral school or the employer. When the training is requested at the initiative of a doctoral candidate, he can mobilise the training hours of his Personal Training Account (CPF)⁽⁴⁾⁽⁵⁾.



IMPROPER PRACTICES

Some organisations propose to certify that a doctoral candidate has participated in a certain number of training courses by affixing a label to his doctorate. While this may seem commendable in order to enhance the value of certain trainings or skills, these labels focus on a limited part of the doctoral career. They therefore obscure the essential skills acquired by doctors, particularly through their research practice. These labels create distinctions between doctorates even though the skills acquired may be the same. This approach seriously undermines the uniqueness and visibility of the doctorate.

In order to value the entirety of their doctoral competences, institutions can instead certify the entire doctoral framework they offer, by obtaining quality labels such as HR Excellence for Research⁽⁶⁾ or ISO 9001 certification of doctoral training. In addition, doctoral schools, institutions and research units are evaluated by the High Council for the Evaluation of Research and Higher Education (Haut Conseil à l'évaluation de la recherche et de l'enseignement supérieur) (HCERES). Such mechanisms encourage their attractiveness for future doctoral candidates as well as the active promotion of doctoral candidates' profiles.

4. <http://vosdroits.service-public.fr/particuliers/F18090.xhtml>, <https://www.service-public.fr/particuliers/vosdroits/F10705>, <http://www.safire.fonction-publique.gouv.fr/>

5. The Personal Training Account (CPF) has replaced the Individual Right to Training (DIF).

6. <https://euraxess.ec.europa.eu/jobs/hrs4r>

CHAPTER XIII

ACTIVITIES BEYOND RESEARCH DURING DOCTORATE

Outside the research mission associated with the doctorate, the doctoral candidate can carry out other activities, paid or not. Their diversity reflects the diversity of the professions and careers of doctors, in the academic sector or outside of it. The doctoral contract provides for the possibility of carrying out several complementary missions.



Other contracts may include an accumulation clause, subject to the employer's authorisation. Volunteering activities linked to research and to the animation of doctoral life can also be carried out during the doctoral candidate's free time. All of these activities beyond research contribute to the doctoral candidate's development of skills, which he will be able to use to benefit his research activity. The skills developed during these activities can be added to the portfolio⁽¹⁾ of the doctoral candidate (see chapter 21 *Skills developed during the doctorate*).

Paid activities

Doctoral candidate under doctoral contract

Combining the general provisions applicable to all public servants (see the [decree of 27 January 2017](#) relating to the accumulation of activities of public employees) and the specific provisions for contractual doctoral candidates (see the [decree of 23 April 2009](#) concerning contractual doctoral candidates), the overview below summarises the paid activities beyond research that can be carried out by contractual doctoral candidates.

1. [article 15](#) of the order of 25 May 2016: "A doctoral candidate's portfolio comprises of an individualised list of all the doctoral candidate's activities during his training, including teaching, dissemination of scientific culture or technology transfer, and enhancing the skills they have developed during the preparation of the doctorate. It is regularly updated by the doctoral candidate"

Activities beyond research that are included in the doctoral contract or that can be accumulated

In the [article 5](#) of the decree of 23 April 2009, it is indicated that the contractual doctoral candidate completes, during the three years of his contract, either an annual service exclusively devoted to research activities linked to the preparation of the doctorate, or an annual service with at least five sixths of his effective working time devoted to research activity, and at most one sixth of his working time devoted to one or a combination of the following activities:

- teaching;
- dissemination of scientific and technical information and exploitation of research results;
- expertise.

Teaching or expertise activities may be entrusted to the doctoral candidate on a contractual basis outside the doctoral contract, in the context of an accumulation of activities, for example under the system of supplement teaching⁽²⁾, provided that the total cumulative duration of these activities is less than one sixth of the full time⁽³⁾. Authorisation to carry out these activities can only be granted if they remain occasional and do not interfere with the research work.



IMPROPER PRACTICES

The remuneration associated with the accumulation of activities covers fewer fees than the one associated with doctoral missions. Moreover, the payment delays in this context are long and sometimes exceed six months. Institutions are therefore invited to pay monthly for this supplement teaching⁽⁴⁾, and certain organisations such as the *Confédération des Jeunes Chercheurs* (CJC) ask employers to encourage the use of assignments in the context of the doctoral contract.

It is possible to change the assignment at the beginning of each new year of the doctorate, by adding an amendment to the initial contract. The employer is not obliged to grant a contractual doctoral candidate the possibility of carrying out an activity outside research: the decision is up to the employer, on the proposal of the director of the doctoral school, after consulting the doctoral candidate, the doctoral supervisor and the director of the research unit.

The doctoral candidate may carry out one or more complementary activities, up to a maximum annual duration of one sixth of a full-time position, all missions combined. This corresponds to 64 hours of teaching time and 32 days for other complementary

2. [decree of 29 October 1987](#)

3. [article 5](#) of the decree of 23 April 2009

4. http://www.enseignementsup-recherche.gouv.fr/pid20536/bulletin-officiel.html?cid_bo=115794&cbo=1

activities. These activities may be carried out throughout the year according to the modalities adapted to each of them and compatible with the research work carried out by the doctoral candidate. Complementary missions carried out within the context of the doctoral contract may be postponed for one or two years, while remaining within the period of the doctoral contract, at the request of the doctoral candidate and after the opinion of the doctoral supervisor, the director of the research unit and the director of the doctoral school (in accordance with [article 5-3](#) of the decree of 23 April 2009).



IMPROPER PRACTICES

The possibility of postponing complementary missions makes it possible to carry out a great number of them in a limited time. A significant postponement at the end of the doctorate does not allow for a serene approach to the end of the doctorate, nor does it allow the research activity to benefit from the skills developed during these missions.

The minimum amount of remuneration for complementary missions is fixed by the regulations ([order of 29 August 2016](#) fixing the remuneration of contractual doctoral candidates), and indexed on the evolution of the index point of the public service⁽⁵⁾ (see [article L412-2](#) of the Research Code and the [circular of 29 November 2016](#)). Thus, on 1 February 2017, the minimum gross monthly salary for a doctoral contract in which one sixth of the time is devoted to complementary missions was 1989.36 € i.e. approximately 220.80 € more than for a doctoral contract without complementary missions.

Teaching assignment

The teaching mission today corresponds to what used to be called “monitorat” before the creation of the doctoral contract. It is carried out within a teaching team of a higher education institution. The annual service is at most equal to one third of the annual teaching service of reference for teacher-researchers, i.e. 42 hours of lectures, 64 hours of supervised work (TD) or practical work (TP) or any equivalent combination in initial, continuing or distance education. A pedagogical tutor follows the progress of the teaching carried out by the doctoral candidate.

These 64 hours of teaching time correspond to one sixth of the doctoral candidate’s annual working time, i.e. a total of 268 hours of actual work. They therefore include the time dedicated to activities linked to these courses (preparation of subjects or answers, exam supervision, marking of papers, oral exam juries, coordination meetings, etc.), as specified in [article 5-1](#) of the decree of 23 April 2009.

5. More information about index treatment in the public service can be found on Service-Public.fr: <http://m.vosdroits.service-public.fr/particuliers/F461.xhtml>

**IMPROPER PRACTICES**

Even though it is made possible by the regulations, the practice of supplement teaching as remuneration for doctoral candidates, whether contractual or not, poses numerous problems.

The hourly remuneration of practical work is sometimes lower than that of the teaching missions of contractual doctoral candidates. Indeed, the equivalence of remuneration between hours of practical work and tutorial work is acquired for complementary missions⁽⁶⁾ but not for supplement teaching⁽⁷⁾.

As of 1 February 2017, one hour of TP is remunerated at 27,59 € in supplement teaching, but at least 41,40 € in doctoral mission (same remuneration as one hour of TD)⁽⁸⁾.

In this case, based on the ratio of actual working hours to equivalent teaching hours for a teacher-researcher, we conclude that a doctoral candidate on contract is paid around the SMIC per hour. It is therefore necessary to limit these tasks to a shorter period of time than that of teacher-researchers.

Finally, if the annual regulatory limit for a doctoral candidate is 96 hours of supervised work or 144 hours of practical work or any equivalent combination⁽⁹⁾, it is strongly advised against exceeding a volume of 64 hours of supervised work per year for a doctoral candidate, and in any case forbidden for a contractual doctoral candidate⁽³⁾. Multiplying the number of supplement teaching hours can indeed be detrimental to the quality of the teaching and to the availability of the doctoral candidate for his research work.

In addition to the teaching that he provides, the doctoral candidate follows a general training course for the teaching profession proposed by the institutions ([article 6](#) of the decree of 23 April 2009). This includes training in teaching methods and communication techniques, and a deeper knowledge of the functioning of the higher education system (see chapter 12 *Continuing professional education for doctoral candidates*).

6. [article 2](#) of the order of 29 August 2016 fixing the amount of remuneration of the doctoral candidate under contract

7. [article 1](#) of the decree of 6 November 1989 fixing the rates of remuneration for additional hours

8. Amounts indexed to the value of the index point of the public service according to [article 3](#) of the decree of 6 November 1989 fixing the rates of remuneration for additional hours

9. [article 5](#) of the decree of 29 October 1987



IMPROPER PRACTICES

A doctoral candidate at the beginning of his career, only starting to teach, rarely has the necessary skills to give lectures or teach at the master's level. It seems more judicious that he should first ensure hours of TD or TP at the level of licence, more in line with his young experience. He will then be able to develop a more varied experience, from the point of view of levels of study, types of teaching or subjects taught.

In the case where hours of lectures are given, the regulation only specifies that the remuneration for complementary missions of the doctoral candidate contract amounts to at least the equivalent of the remuneration of one hour of tutorial work in supplement teaching ([article 2](#) of the order of 29 August 2016 fixing the amount of remuneration of the doctoral candidate on contract). It is recommended to remunerate him (in the same way as for tenured professors) at 1.5 times the rate for hours of supervised work.

On the other hand, it is unacceptable that activities related to the teaching of colleagues, such as copy correction or exam supervision, be requested from the doctoral candidate in the absence of a dedicated remuneration.

Expertise mission

Previously known as a "consulting doctorate", the expertise mission consists of a paid mission carried out by a doctoral candidate in a company, an administration, a territorial collectivity, a public institution, an association or a foundation, complementary to the doctoral research mission.

This mission is generally linked to the field of knowledge and skills acquired during the training but is not part of the doctoral candidate's research project. Examples of missions include auditing and methodological, technical and scientific advice, technological monitoring, feasibility studies, bibliographic analysis, staff training, etc.

An agreement is signed between the institution employing the doctoral candidate and the sponsor of the expertise mission. It defines the activities entrusted to the doctoral candidate, their execution, supervision and evaluation procedures, the amount of the service invoiced by the institution to the sponsor of the mission, as well as the responsibilities of the hierarchical superiors in the company sector and the doctoral supervisor.

The [article 5](#) of the decree of 23 April 2009 authorises doctoral candidates on contract to carry out an activity of expertise in the context of the accumulation of activity as well as for the teaching activity. It is advisable to inform the institution and the unit of these

activity projects in order to facilitate their follow-up and to enhance the value of the work being done. In the event of a conflict of interest, the activity may be reclassified as collaboration.

Mission in the fields of dissemination of scientific and technical information and valorisation of research results

The objective of the dissemination of scientific information is to promote the research activities, achievements and skills of teacher-researchers and researchers in the laboratories, beyond the academic sphere, to students, secondary school teachers, actors in the socio-economic world and citizens. The structure (high school, association, museum, etc.) behind the mission provides for appropriate supervision to accompany the doctoral candidate and monitor the implementation of the projects.

The purpose of the activity of “valorisation of the results of scientific and technical research” is to valorise the results of the research. This can be done through the negotiation of research collaboration or valorisation contracts, the transfer of technology, the protection of results, the detection of technologies, methodologies and research projects that can be valorised, etc. During the mission, it is not a question of developing the results of one’s own research but of appropriating external projects in order to define a development strategy.

The service that initiates the mission provides appropriate supervision to accompany the doctoral candidate and to follow up on the implementation of the projects.

Offers of missions

These missions are, in general, posted by the institution and may be offered to doctoral candidates by the doctoral schools, the institutions and within the laboratories. In particular for the missions of expertise, it is up to the institution to take the responsibility of canvassing companies in order to generate offers of missions, by relying for example on its valorisation structures and its network of alumni. Candidates can also participate in this outreach.

The missions may be open to doctoral candidates who do not have their doctoral contract in the institution: the institution that signed the doctoral contract will then add an amendment to the doctoral contract, and the two institutions will establish an agreement (article 5-2 of the decree of 23 April 2009 and page 8 of the circular of 29 November 2016).

Activities beyond research that cannot be accumulated

Apart from teaching and expertise activities, no complementary activity outside of research may be carried out by contractual doctoral candidates in return for payment. In particular, student employment is incompatible with a doctoral contract (article D811-8 of the Education Code).

Other cases outside of the doctoral contract

Doctoral candidates who do not have a doctoral contract but who benefit from another contract may take on the missions mentioned above. For doctoral candidates with a CIFRE contract or any other private law contract, access to these missions depends on the contract signed between the doctoral candidate and the company and the authorisation granted by the employer to the doctoral candidate. The institution may open its missions to doctoral candidates who do not have a doctoral contract in its institution.



IMPROPER PRACTICES

The supplement teaching does not constitute the remuneration of the doctoral candidate's research work. They can therefore only constitute a supplement of income for the doctoral candidate, in addition to his salary due to the research mission. Other problems linked to the supplement teaching are indicated in the Improper Practices box on the page 92.

Volunteering activities related to the doctorate

Apart from the doctoral project and its contractual missions, there are other optional activities related to the doctorate, generally done on a voluntary basis.

It is not in the doctoral candidate's interest to spread himself too thin. The realisation of his doctoral project, and in particular his research activity, remains a priority and constitutes almost all of his professional time. His volunteering must not encroach on his working time.

Representation of early-stage researchers

Doctoral candidates may engage in representation of early-stage researchers in various bodies, which develop their knowledge of research administration and their communication skills in particular (see chapter 17 *Representation of doctoral candidates*).

Associative activities

Sometimes, within the institution or the doctoral school, there is already an association of doctoral candidates and young doctorate holders; if not, it is possible to create one. The missions of the association depend on its statutes and may for example include:

- establishing links between doctoral candidates from a doctoral school or institution;

- establishing links with other actors in the doctoral school or institution;
- establishing links with doctoral candidates from other doctoral schools;
- promoting the doctorate
- participating in mediations, in the event of conflicts involving doctoral candidates.

There are also territorial associations (generally regional or national) of early-stage researchers and confederations of associations. The *Confédération des Jeunes Chercheurs* (Confederation of Early-stage Researchers) (CJC) is the national representative body of doctoral candidates and young doctorate holders and the interlocutor of public authorities and decision-makers.

To establish links among doctoral candidates from the same institution or from other doctoral schools, cultural, sporting and culinary events can be organised. The association, depending on its budget, may contribute to the costs of its activities.

The promotion of the doctorate can be done with companies through forums, through meetings between doctoral candidates and human resources departments and through company visits. With the general public, the promotion of the doctorate can be done through open days at the doctoral school or through scientific culture events such as the *Fête de la Science* (Science Day). These activities can be organised or co-organised by the association, the doctoral school, the institution, the laboratory, etc.

These activities may allow the acquisition and development of skills complementary to the doctoral project (communication, diplomacy, project management, accounting, management, etc.) and be validated as doctoral training, according to the policy of the doctoral school.

The list of early-stage researchers' associations can be found on *la Toile des doctorants* (the Doctoral Candidates' Web)⁽¹⁰⁾.

Evaluator HCERES

Doctoral schools are evaluated by the French High Council for Evaluation of Research and Higher Education – HCERES (Haut Conseil à l'Évaluation de la Recherche et de l'Enseignement Supérieur)⁽¹¹⁾. The committee appointed by the HCERES to evaluate each structure and study the self-evaluation file submitted, carries out the site visit, then fills in the evaluation grids and delivers its report.

Young doctorate holders can participate in the evaluation committees of doctoral schools. The mission expenses are covered by the HCERES and the committee members receive an indemnity for their expertise.

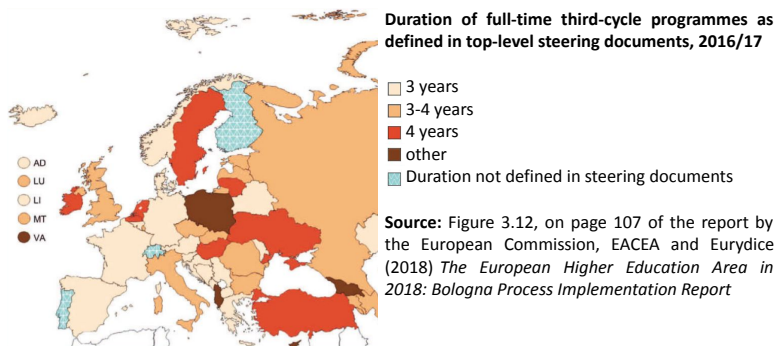
10. <http://associations-jeunes-chercheurs.org/>

11. <http://www.hceres.fr>

CHAPTER XIV

DURATION OF DOCTORAL PROJECT AND POSSIBLE EXTENSION

In France, the duration of the doctorate is “generally three years of a full-time equivalent devoted to research”⁽¹⁾. This harmonisation is part of the definition of a single doctorate for all disciplines and is part of a process of international and particularly European homogenisation. In the majority of European countries, the typical duration of doctorates is currently three years, and does not exceed four years in most other countries⁽²⁾. Such an interdisciplinary and international uniqueness of the doctorate favours its legibility and its recognition as a professional research experience of a substantial duration; it also provides a framework with a limited duration for the dimensioning and conduct of doctoral projects.



This chapter presents good practices for carrying out a doctoral project in three years. It also describes the possibilities of extension of the doctorate, which are strictly regulated, and the exceptional arrangements for carrying out a part-time doctorate.

1. [article 14](#) of the order of 25 May 2016 on the doctorate
2. see in particular the [figure 3.12 on page 107](#) of the report by the European Commission, the EACEA and Eurydice (2018) *The European Higher Education Area in 2018: Bologna Process Implementation Report*

Duration of the doctoral project

The doctorate, a full-time experience

The doctorate is a first professional research experience, and it is preferable to carry it out full-time without interruption, in order to complete it in the best conditions. However, the doctorate can be conducted on a part-time basis, under certain conditions detailed in the section Special case of part-time doctorates.

The proper duration of the doctorate

In order to define a single doctorate for all disciplines and all European countries, it is important to harmonise its duration. In France, the expected duration of doctoral funding is three years (see chapter 4 *Funding plan of the doctoral project*): doctoral contract, public subsidy for the CIFRE, European funding programmes such as the Innovative Training Network (ITN) of the Marie Skłodowska-Curie actions⁽³⁾.

This duration allows a researcher at the beginning of his career to carry out his first project, to be integrated into the research unit, to master the state of the art and to conduct innovative work validated by peers, while gradually gaining autonomy. It is important to include in the duration of the doctorate not only the entirety of the research work, but also the writing of the manuscript, the defence and the transmission of the results and methods that were developed to the research team (see chapter 19 *Conclusion of the doctoral period*).

For future employers, a harmonised duration makes the doctorate more readable. Indeed, it contributes to the homogenisation of doctoral projects, whatever the institution or the research field (organisation of work, supervision, project monitoring, etc.). It is thus possible to define a set of skills common to doctors, among which is the ability to carry out a research project within a given time, whatever the difficulties encountered.

Respecting the duration of the doctorate

Respecting the duration of the doctorate is essentially a methodological problem of project management. Each actor in the doctoral project has a role to play at his level to ensure that this is respected (see chapter 11 *Supervision and monitoring of the doctoral project*). The three-year duration of the doctoral project is simply one of the parameters of the doctoral project, the respect of which constitutes one of the criteria for success, in that it shows the doctor's ability to control his deadlines and to manage the uncertainties and hazards

3. http://ec.europa.eu/research/participants/portal/doc/call/h2020/h2020-msc-a-itn-2014/1590152-itn_2014_-_guide_for_applicants_1.2_en.pdf

intrinsic to the researcher's job (unsuccessful leads, delays in acceptance and rejection of publications, etc.).

Furthermore, it is the responsibility of the doctoral supervisor and the doctoral school to evaluate the feasibility of the project within the allotted time (see chapter 3 *Elaboration of a doctoral project* and chapter 5 *Validation and selection of doctoral projects*). If it appears, before or during the doctorate, that the project cannot be carried out within this duration, the doctoral supervisor, in agreement with the doctoral school, takes responsibility for modifying the project to avoid exceeding this duration excessively. The annual follow-up of the doctoral candidate organised by the doctoral school is an excellent opportunity to discuss the resizing of the project.



IMPROPER PRACTICES

In some scientific communities, the opinion is that a doctorate requires a duration of more than three years. The main reason given for this is to invoke the “specificities” inherent in the research work of a given field. The effect of this practice is to give the doctorate the image of an extremely long, drawn-out process involving an obstacle course and major personal sacrifices. This representation, while it may have had a reality in the past, corresponds to work that is disproportionate to current national and international standards. The recourse to arguments of “specificities of the research field” is a classic and widespread way of avoiding the real determinants that are the concrete conditions of the conduct of doctoral work. This makes it possible to minimise the responsibility of the actors (doctoral candidate, doctoral supervisor and doctoral school) and, thus, to prevent any initiative of evolution, by invoking the authority of supposedly scientific reasons.

All scientific fields, humanities, social sciences and experimental sciences, have, without exception, their share of constraints and hazards linked to the nature of their work. A historian will have difficulties in accessing certain archives, an astrophysicist will have to be able to access equipment that is unique in the world, a biologist will have problems with organisms that have their own rhythm, a sociologist will be constrained by administrative authorisations for fieldwork, an experimental physicist will be delayed by technical breakdowns beyond his control, etc. These constraints cannot in themselves justify doubling the average duration of doctorates depending on the research field.

However, the determining factors acting on the duration of the doctorate are well identified, and they feed off each other in a vicious circle:

- **Failure of research units:** the absence of elaboration of research projects outside of the recruitment of doctoral candidates, as well as the lack of integration of doctoral projects into the overall scientific policy of a research unit, lead the doctoral candidate to scientific isolation and to long periods of time wasted trying to define a relevant research problem or searching for competent scientific contacts in his field (see chapter 3 *Elaboration of a doctoral project*). This failure often comes from an insufficiency of means and structure of the research units (lack of premises, material and financial means, collective work and common projects, scientific policy).
- **Lack of supervision and monitoring:** a doctoral supervisor's low or insufficient involvement in the development of the doctoral project and the supervision of the doctoral candidate leads to an increase in deadlines that cannot be met. It is important to underline that for a doctoral supervisor, the supervision of a large number of doctorates does not ensure quality. Moreover, shortcomings in the monitoring of doctoral studies at the level of the doctoral school, the research unit and the partners (see chapter 11 *Supervision and monitoring of the doctoral project*) also increase the risks of missing deadlines.
- **Poor project management:** the failure to respect deadlines may be due to the inability of the doctoral candidate to manage his project (lack of skills or of hindsight to make the right decisions). It may also be due to a lack of responsibility of the doctoral candidate who neglects to be proactive or does not provide the necessary work. This situation may result from poor recruitment (see chapter 7 *Doctoral candidate recruitment procedure*) or from inadequate motivation of the candidate (see chapter 2 *Motivations: from idea to project*).
- **Lack of funding:** a doctoral candidate who must engage in another professional activity in order to support himself cannot devote full-time to his doctoral project and therefore cannot meet the three-year deadline (see chapter 4 *Funding plan of the doctoral project*).
- **Conservatism of recruitment practices:** certain commissions in charge of qualifications and recruitment to the functions of researcher and full professor-researcher seem to have stayed in the ideas of a *thèse d'état* and give the impression of evaluating the quality of a doctorate

by the number of pages of the thesis manuscript or by the number of years spent in a doctorate. The duration of doctoral projects is of course directly impacted by this attitude, as doctoral candidates interested in an academic career logically seek to conform to the quality criteria (whether formally or informally expressed) and the scientific culture that prevails in their working environment.

The way to reverse these aberrations lies in the increasing professionalisation of the doctoral actors. As the doctorate is still sometimes essentially perceived by some as a continuation of studies and as a “personal adventure”, there is nothing to encourage the actors – including the doctoral candidate – to invest themselves in respecting deadlines. These deadlines are then experienced as constraints to freedom and not as a framework necessary for the efficiency of the work and the valorisation of the doctoral experience.

Possible and exceptional extension

Certain exceptional circumstances may justify the need for an extension of the doctoral project beyond the initially planned duration of three years. There are several types ([article 14](#) of the order of 25 May 2016 relating to the doctorate):

- extension granted by right for medical or family reasons detailed below;
- extension for doctoral candidates with a disability;
- exceptional extension following the granting of a gap period for personal reasons;
- derogatory extension granted by the head of the institution, in particular because of difficulties linked to the doctoral project, with three options:
 - adaptation of the project to avoid an extension,
 - extension,
 - interruption.

The regulations specify that the duration of the doctorate and of any associated doctoral contract may not exceed six years, knowing that no gap period will be counted in this duration.

Extension granted by right

The [article 8](#) of the decree of 23 April 2009 provides for several cases of extension of the doctoral contract, leading to an extension of the doctorate, in situations of interruption of work provided for by the [articles 14](#) and [15](#) of the decree of 17 January 1986: maternity leave, paternity leave, adoption leave, sick leave, or following an accident at work, that can last several months.

These extensions of the contract are granted *“by right, provided that the person in question submits a request before the expiry of his initial contract”*, in accordance with the [circular of 29 November 2016](#) (page 6).

Provisions relating to contractual doctoral candidates are also provided for in the [circular of 30 April 2012](#), which details the rights to legal leaves and the method of calculating the related reductions in teaching service for research staff, specifying that contractual doctoral candidates benefit from the same provisions as teacher-researchers with regard to their teaching (page 3).

In particular, the maternity leave (page 5) corresponds to 16 weeks and in no way modifies the right to annual leave of the contractual doctoral candidate. A service discharge is granted in proportion to the annual service load of the equivalent of 64 hours of TD. This corresponds to a minimum of 32 hours of teaching leave in the case of a first or second pregnancy, of 51 hours from the third onwards, and of a full service in the case of multiple births. The same pro-rata method applies for other cases of leave of absence leading to extensions of the doctoral contract by right.

As for the doctoral candidates with a CIFRE contract, article 15 of the [CIFRE grant agreement](#) stipulates that the subsidy from the ministry in charge of research paid by the ANRT to the company is suspended in the event that the doctoral candidate's work is halted for more than one month. Paradoxically, if this grant is then extended, no renewal of the contract is possible in the case of a fixed-term contract (CDD): the research unit can sign a contract corresponding to the additional months required following the interruption, unless the company transforms the CDD into a permanent contract (CDI).

The funds necessary for these extensions of the contract may come from sums pooled following the premature termination of other doctoral contracts.

Extension for doctoral candidates with disabilities

At the request of the doctoral candidate with a disability, the head of the institution may extend the duration of the doctorate.

If the doctoral candidate benefits from a doctoral contract, he may also request an extension of one year of his work contract by one year ([article 7](#) of the decree of 23 April 2009). Obtaining this extension will be conditional on the presence of funding to cover the additional period.

Exceptional extension for a gap period

The terms of the [decree of 18 May 2018](#) relating to the gap period specify the provisions defined in [article 14](#) of the order of 25 May 2016 relating to the doctorate.

The gap period constitutes an interruption of doctoral work and, consequently, is not remunerated in this context. It can only take place once during the doctorate. The doctoral candidate remains enrolled in his institution during the gap period. This gap period necessarily begins with an academic semester; the last academic semester of the doctorate cannot be used for this purpose. The duration of this period, between one and two academic semesters, is not counted in the duration of the doctorate. In the case of a doctoral contract *“duration of the contract is extended by an amendment for the duration of the leave of absence”*⁽⁴⁾.

The request is made to the head of the institution *“with the aim of acquiring personal or professional experience, either in autonomy or supervised in a host organisation in France or abroad”*. It is made at the exclusive initiative of the doctoral candidate and cannot be made compulsory. The institution sets the terms and conditions of the grant, *“taking into account the quality and coherence of the project”*. The doctoral candidate can use the gap period for training not related to the doctoral project, for other professional experience, for civic service, or for a business creation project.

The doctoral candidate, his research team and his doctoral school anticipate, as soon as the request for a gap period is made, the evolutions of the context (working environment, evolution of the research field, funding of the project, etc.) during the interruption of the doctorate, in order to identify and prevent the risks associated with the interruption and the resumption of the doctorate. All the actors involved in the doctoral project accompany the resumption of the doctorate. If necessary, in order to take into account the consequences of the activity carried out during the gap period (for example the creation of a company), the doctoral training agreement is adapted, indicating in particular the professional project, the research schedule of the doctoral project, and whether the doctorate is being carried out on a full-time or part-time basis⁽⁵⁾.



IMPROPER PRACTICES

The regulations prohibit the use of a gap period in order to increase the duration of time allocated to the doctoral project. Thus, the gap period cannot be used, for example, for the appropriation of the research subject, for the writing of articles or the thesis, or for the preparation of the defence. Furthermore, the award of the doctorate cannot be conditioned by activities linked to the gap period, for example a professional experience in a company.

4. [article 8-1](#) of the decree of 23 April 2009

5. [article 12](#) of the order of 25 May 2016 on the doctorate

Extension due to difficulties in the realisation of the project

Criteria directly linked to the doctoral project may lead to the consideration of a doctoral extension: unforeseen major material problems, significant scientific risk-taking, important redefinition of the research project. In all these situations, it is important to keep in mind that the extension of the doctorate is a derogation, and to find the best adapted solution.

Adaptation of the project

Good project management and increased vigilance on the critical points described above by the different actors involved (doctoral supervisor, doctoral school, doctoral candidate, etc.) make it possible to adapt the doctoral project to the difficulties encountered without increasing the duration of the doctorate. Beyond the reorientation of the project, the defence can also be envisaged based on the results already obtained.

Exceptional delay

An additional period of time may be granted on a derogatory and exceptional basis by the head of the institution, on the proposal of the director of the doctoral school and after the opinion of the doctoral supervisor and the director of the unit, following a reasoned request from the candidate⁽⁶⁾. It is up to the institutions, via the doctoral schools, to set out a detailed procedure, and in particular to specify the reasons and conditions allowing for a derogation. Requests for derogations related to the scientific project must be anticipated by the doctoral candidate and his doctoral supervisor. The existence of a derogation procedure must not be used as a palliative for a deficiency in the definition of the doctoral project, its conduct and the management of associated risks (research hazards, publication deadlines, etc.).

Whatever the reason for the extension of the doctorate, a derogation can only be granted if funding is available to cover the additional period. Obtaining this funding is the responsibility of the doctoral supervisor. A lack of funding leads to a deterioration in the working conditions of the doctoral candidate and threatens the success of the doctoral project, in a situation that is already difficult because of the extension.

In the case of the doctoral contract, the regulation ([article 7](#) of the decree of 23 April 2009) authorises extensions of the doctoral contract by the signature of riders but limits them to two extensions of one year each. On the other hand, in the case of a CDD (fixed-term) CIFRE

6. see [article 7](#) of the decree of 23 April 2009 relating to contractual doctoral candidates from public higher education or research institutions

doctorate, the work contract with the company is not renewable; the extension of the doctorate therefore requires that the responsibility of employer be taken over by the supervisory institution of the academic laboratory partner of the CIFRE, unless the company transforms the CDD into a CDI (permanent contract).

In order to regulate the use of derogations, and in the spirit of the regulations in force ([article 14](#) of the order of 25 May 2016), the list of beneficiaries, with the reasons for the decision, is presented each year by the director of the doctoral school to its council and to the research commission of the affiliated institution, accompanied by more detailed indicators, such as the number of months of doctorate completed, the number of doctoral candidates supervised by their doctoral supervisor, or the average duration and withdrawal rate of doctorates supervised by their director, and in general in their research unit or doctoral school.

Project termination

When an extension of the doctorate is envisaged because of the difficulties encountered, it is advisable to also consider the possibility of terminating the doctoral project. Indeed, rather than an extension of the doctoral project with uncertain success due to persistent difficulties of the doctoral candidate, or new scientific obstacles, it may be preferable, depending on the case, to definitively stop the doctoral project. When such an interruption is envisaged, it is preferable to carry it out as soon as possible. The chapter 20 *Premature termination of doctorate* details the procedures for terminating the doctoral project.

Special case of part-time doctorates

Given the material, intellectual and temporal constraints of the research activity, it is always preferable to carry out a doctorate on a full-time basis. Nevertheless, in practice, some doctoral projects are carried out on a part-time basis. This can be tolerated when the following four conditions are met:

- the doctoral candidate has another regular and qualified professional activity (secondary school teacher, physician, self-employed professional, etc.);
- this activity cannot be suspended during the doctoral project;
- the doctoral candidate's planned professional project is consistent with the objective of obtaining a doctorate;
- the research problem will not suffer from the prolongation of the doctorate (risks in the case of a competitive or rapidly evolving scientific context, which may render certain results rapidly obsolete).

When starting a part-time doctoral project, the doctoral training agreement signed between the doctoral candidate and the doctoral

supervisor before the start of the project specifies that the doctorate is conducted on a part-time basis and what the professional status of the doctoral candidate is ([article 12](#) of the order of 25 May 2016). Furthermore, it is recommended that an agreement be formalised between all the actors (doctoral candidate, doctoral supervisor, doctoral school, employer for the research part and employer for the other activity) on the working time and the expected duration of the doctorate. The full-time equivalent duration is also three years. It is recommended that a doctorate be carried out at more than 50% of the working time so as not to exceed a duration of six years. In the case where the employer has an interest in the doctoral project, whether in terms of the expected results or the skills acquired by the doctoral candidate, he can finance the research project directly, guaranteeing a minimum availability of 50% of the doctoral candidate's working time for the necessary duration of the doctorate.

In all cases, the funding of all costs (see chapter 3 [Elaboration of a doctoral project](#)) related to the part-time doctoral project must be foreseen before the beginning of the project.

CHAPTER XV

CONFLICT MANAGEMENT DURING THE DOCTORATE

A conflict is a major difference between natural or legal persons that may call into question their relationship and cooperation. In this chapter, we will be dealing with conflicts that affect the conduct of the research project and which may influence its smooth running or even prevent it from being carried out successfully. They can be directly linked to the professional activity of the doctoral candidate, or result from facts external to the research work.



The prevention and management of conflicts allow to limit their negative effects and to reach an appropriate resolution. The resolution of a conflict is all the more satisfactory if the conflict is detected and dealt with early, thoroughly, professionally and responsibly by each party. Conversely, conflicts that are poorly resolved or allowed to deteriorate have dramatic consequences, and the possibilities for resolution disappear over time. Depending on the case, a resolution via mediation or a disciplinary sanction procedure will be preferred. Several solutions can then be envisaged: reorganisation of the subject, of the direction or duration of the doctoral project, or even termination of the doctorate.

Emergence of conflicts

Sources of conflict

The many sources of conflict can be of two types:

- related to labour law: absence of the work contract or non-compliance by one of the parties, bad working conditions (access to material or financial resources, etc.), personal problems requiring an adjustment of the doctorate, bankruptcy of a company financing the doctorate, discrimination, psychological pressure and moral harassment, sexual harassment, violence against persons or property, etc.
- related to the doctoral framework: non-respect of the rights and duties of the doctoral supervisor or doctoral candidate (professional inadequacy, lack of supervision, missed deadlines, initial lack of remuneration, scientific isolation, etc.), incompatibility

of moods, scientific divergence, refusal of defence authorisation, of enrolment or of re-enrolment in doctorate, departure of the doctoral supervisor, assignment of inappropriate tasks, conflicts of intellectual property (patents, publication), etc.

These potential sources do not systematically generate a conflict. In many situations, a concertation between the concerned actors is enough to arrange the good continuation of the doctoral project. Some of these arrangements are, for example, provided for by law, such as maternity leave and sick leave, and may require an extension of the doctoral work contract (see chapter 14 *Duration of doctoral project and possible extension*).



IMPROPER PRACTICES

The remuneration of doctoral candidates through *libéralités*, i.e. without signing a work contract, is a multiple source of conflicts:

- related to labour law: the absence of an employment contract deprives the doctoral candidate and his employer of legal guarantees in terms of labour law, intellectual property, social security and medical protection, etc.
- related to the doctoral framework: the absence of recognition of a work performance that justifies the doctoral candidate's salary places the latter in a position of strong dependence with regard to any pressure that could lead to the termination of his grant.

The systematic use of a work contract for any doctoral candidate who carries out research work in a research unit dependent on a higher education institution or a research institution is the only way to avoid problems due to the absence of contractualisation.

Advices in the event of an emerging conflict

The individual monitoring committee of the doctoral candidate⁽¹⁾ is a tool for identifying conflicts. By regulation, the individual monitoring committee must meet at least once before enrolment in the third year of the doctorate⁽²⁾. For optimal monitoring, it is advisable to meet with the individual monitoring committee regularly, at least once a year from the end of the first year.

In the event of a conflict, it is common to encounter the following difficulties: difficulty in identifying the real nature of the conflict and in evaluating its seriousness, difficulty in determining the means of resolution, personal destabilisation caused by the conflict. When

1. [article 13](#) of the order of 25 May 2016 relating to the doctorate
2. [article 11](#) of the order of 25 May 2016 relating to the doctorate

facing these difficulties, isolation can only aggravate the situation: it is strongly recommended to engage in dialogue with third parties such as colleagues, friends, the family, an on-site work psychologist or an external psychologist.

Appropriate communication practices, such as *active listening*⁽³⁾ and non-violent communication⁽⁴⁾ should also be adopted. These methods, which can be introduced to doctoral candidates and supervisors as part of continuing professional education, encourage direct, effective and productive dialogue with a view to improving the situation. Keeping a written record of these oral exchanges will allow for an objective perspective on the situation and ultimately the resolution of the conflict. On the other hand, arguing by email, answering in the heat of the moment or allowing misunderstandings or ambiguities to remain risk to aggravate the situation.

Tools and means of mediation resolution

When the conflict does not fall within the scope of a disciplinary sanction procedure (see section “*Sanctions*” below), a mediated resolution is considered. For such mediation to be effective, it is important that the people who lead and facilitate it are trained in conflict management, in particular within the doctoral school and the institution. A failure of the mediation, after application of the procedures described below, can also lead to the termination of the doctorate, by resignation or dismissal of the doctoral candidate (see chapter 20 *Premature termination of doctorate*).

In case of conflict between the doctoral candidate and the doctoral supervisor

First of all, it is advisable to analyse the reasons for the problems, and to engage in direct dialogue at first. If the situation seems blocked, it is advisable to progressively refer it to the higher hierarchical level. The following interlocutors could be involved:

- the head of the research unit;
- the head of the doctoral school;
- the appropriate department in the institution (human resources department, research vice-presidency, conflict resolution committee, joint advisory committee⁽⁵⁾).

3. Rogers, C. R., & Farson, R. E. (1957). *Active listening*. Industrial Relations Center of The University of Chicago

4. Rosenberg, M. B. (1999). *Nonviolent communication: A language of compassion*. PuddleDancer Press

5. Advisory committees for contractual doctoral candidates (CCDC) were created by the [decree n° 2009-464 of 23 April 2009](#) relating to contractual doctoral candidates. It is stated in its [article 10](#) that: “An advisory committee is set up by the internal regulations of each institution to deal with individual questions relating to the professional situation of contractual doctoral candidates. It includes, in equal proportions, representatives of the scientific council and elected

Each of these administrative bodies has procedures for reporting, resolving and monitoring conflicts brought to its attention. The representatives of the concerned bodies are designated in such a way as to avoid conflicts of interest, for example if the doctoral supervisor is also the director of the doctoral school. Furthermore, doctoral candidates' associations or other mediators may take part in the resolution of the conflict, at the request of the doctoral candidate or other parties.

At the research unit level: informal mediation

The director of the research unit is responsible for the cohesion of the group and the progress of the research projects. In this capacity, he stays informed of any disagreements between doctoral candidates and supervisors, in order to initiate conciliation. This can take the form of informal discussions with the doctoral candidate and the doctoral supervisor, aiming to find a solution that suits both parties. The participation of colleagues can be useful in this process.

At the level of the doctoral school: a formal mediation framework

The doctoral school plays a central role in the management of conflicts related to doctorates. When the conflict is not easily resolved within the research unit, the director of the doctoral school should be promptly notified so that he could initiate an official mediation procedure. He then proposes a solution, as well as the criteria for evaluating its implementation, which are acceptable to all parties involved. The responsibility for monitoring the implementation of this solution is entrusted to the director of the doctoral school.

At the institution level: a last resort and an obligatory step in case of dismissal

If mediation fails at the doctoral school level, a mediation procedure is initiated at the doctoral candidate's institution of enrolment. It follows the principles indicated in the institution's doctoral charter,

representatives of contractual doctoral candidates. This committee gives reasoned opinions to the head of the institution. It may be referred to at the initiative of any contractual doctoral candidate or of the head of the institution". This article was modified by [article 13](#) of the decree of 29 August 2016 relating to contractual doctoral candidates in public higher education or research institutions. These modifications abolish the existence of the CCDCs, "any question of an individual nature relating to the professional situation" of contractual doctoral candidates being henceforth dealt with by the joint advisory committees of the employing institutions ([article 1-2](#) of decree n° 86-83 of 17 January 1986 relating to the general provisions applicable to contractual agents of the State). However, the CCDCs remain competent on these issues until the professional elections of December 2018 and the mandate of their members is maintained ([article 15](#) of the decree of 29 August 2016).

by providing for the involvement of an impartial mediator in the resolution of the conflict. Any contractual doctoral candidate or head of the institution may also refer the matter to the joint advisory committee⁽⁵⁾ of the employing institution for an opinion (see [article 1-2](#) of decree n°86-83 of 17 January 1986 concerning the general provisions applicable to contractual agents of the State).

Mediations at the level of the doctoral school or institution may lead to a change of doctoral supervisor, and/or possibly to a change of direction, or even a change of project and duration of the doctorate (see chapter 14 *Duration of doctoral project and possible extension*).

In case of conflict at the level of the research team

The doctoral candidate and the doctoral supervisor are part of a team whose quality of research stems, among other things, from the richness of the exchanges within that team. A lack of team cohesion or unsuitable working conditions (no contract, no office, no access to the research unit's services, etc.) can lead to relational, professional and scientific isolation of the doctoral candidate or supervisor. In this case, the research unit and the doctoral school are notified.

The solutions envisaged are, for example, the creation of seminars, the attachment to another team or another unit, the creation of new scientific collaborations, the improvement of working conditions. In case of persistent isolation, harmful to the doctoral project, an adjustment of the project may be considered in agreement with the doctoral school.

In case of conflict between the doctoral school and the doctoral candidate/doctoral supervisor

Conflicts between the doctoral school and the doctoral candidate or doctoral supervisor may be related to the authorisation of doctoral enrolment, re-enrolment, thesis defence, etc.

In case of disagreement with a decision of the doctoral supervisor, a first meeting is organised between the doctoral candidate, the doctoral supervisor and the director of the doctoral school. If the conflict persists, it is possible to request the assistance of the members of the doctoral school council to explain the problem and to propose a solution. Finally, the conflict may be resolved by a structure grouping doctoral schools if it exists, or by the institution (presidency, research board). At each level, associations of doctoral candidates or mediators can help to resolve the conflict. If the problem is between the doctoral candidate and the doctoral school, throughout the mediation, the doctoral supervisor takes an active part in the resolution of the problem.

In case of conflict between the institution and the doctoral candidate/doctoral supervisor

Possible problems concerning re-enrolment or authorisation of defence are settled in a similar way to those described between the doctoral school and the doctoral candidate or supervisor. The director of the doctoral school is then involved in the resolution of the conflict.

In the event of a problem relating to the application of the doctoral charter, the doctoral school considers the evolution of the doctoral charter if necessary.

Problems relating to the institution's position as employer may also arise, for example in relation to the use of work and intellectual property, working conditions, the launching of a dismissal procedure, the setting up of an activity beyond research. For doctoral candidates under doctoral contract, the [article 1-2](#) of decree n° 86-83 of 17 January 1986 provides for the existence of one or more joint advisory committees⁽⁵⁾ which can be consulted on any question of an individual nature relating to the professional situation of doctoral candidates. Their composition, organisation and functioning, as well as the terms and conditions for appointing doctoral candidates' representatives, are determined by a decision of the competent authority of the institution. It may call upon the expertise of the competent services of the institution (human resources, legal services, medical services), associations of early-stage researchers, or a mediator chosen by mutual agreement.

For all of these conflicts, if mediation fails, an administrative appeal may be filed. The administrative court may also be seized. It is then advisable to call upon professionals or experts to be accompanied in this procedure: lawyers (possibly within the framework of legal aid) or unions.

In case of conflict with a company in the context of a CIFRE contract

A conflict between the doctoral candidate and his company can be resolved by mediation between the parties in the first instance. The conflict is brought before the *Conseil des prud'hommes*, which settles it by conciliation or judgment (see [article L1411-1](#) of the Labour Code).

In the event of a conflict between the company and the laboratory, the research collaboration contract includes an article relating to disputes which mentions the competent jurisdiction in the absence of an amicable settlement⁽⁶⁾.

6. See for example the standard collaboration contract provided by the ANRT : http://www.anrt.asso.fr/sites/default/files/trame_redaction_contrat_collaboration_2.pdf

In the event of the bankruptcy of the company employing the doctoral candidate, if the doctoral candidate finds a new company to employ him, the ANRT (National Association for Research and Technology) can sign a new agreement with this new company in order to conclude the doctoral project. The ANRT may also help to find the new company. In no case may the grant from the ANRT be paid to a public body.

Sanctions

Depending on the seriousness of the facts which led to the conflict, a sanction procedure may also be initiated, at disciplinary or penal level if necessary, against the responsible person.

In cases which are subject to a criminal sanction, in particular harassment, a compromise through mediation is not possible: the appropriate body must be seized for a disciplinary sanction.

In higher education institutions, the academic council meeting in a disciplinary section exercises disciplinary power with regard to teacher-researchers, teachers and users, according to l'article L712-6-2 of the Education Code. The procedure for referring cases to the disciplinary section is described in the [circular of 25 November 2015](#). In the public scientific and technological institutions (EPST), this involves the joint advisory committees⁽⁷⁾.

The systematic nature of the referral to the disciplinary body and the resulting imposition of sanctions are intended to prevent the recurrence of such acts. Likewise, in the interest of prevention, the administrative bodies shall ensure that the examined cases and the sanctions are published in an appropriate manner.

Monitoring and prevention of conflicts

The prevention of conflict situations requires careful monitoring and reactive follow-up of working relations at all levels of the research structures. This approach makes it possible to avoid a deterioration of situations of risk which would make the mediation process more complex.

Monitoring of decisions

The same follow-up requirements also apply to the mediation itself: the decisions and proposals made during the meetings aimed at resolving a conflict will be clarified in writing, and a date is systematically proposed in order to take stock of the evolution of the situation.

7. <https://www.fonction-publique.gouv.fr/fonction-publique/fonction-publique-france/elections-pro/quest-quune-commission-administrative-paritaire>

Archiving and improving practices

In order to improve practices, efficiency and evaluation, the history of conflicts is archived by each administrative body. In particular, the director of the doctoral school ensures that the archives are created and transmitted to his successor. In terms of improving practices, it is advisable to draw all the consequences of the encountered situations of conflicts, starting from the project development level, through doctoral recruitment, up to the authorisation to enrol in a doctoral programme. In particular, if such situations recur with the same doctoral supervisor, in the same research unit or doctoral school, it is necessary to identify the reasons for this dysfunction in order to remedy it.

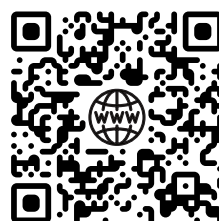
Raising the awareness of the actors

It is useful for doctoral candidates, doctoral supervisors, directors of the research unit and directors of the doctoral school to be made aware of the strategies of prevention and resolution of conflicts: communication techniques to avoid conflicts, the importance of writing down decisions and reports throughout the doctoral project, mediation methods in case of conflict, legal aspects of doctoral supervision (labour law, intellectual property, etc.). This awareness can be established, for example, by the doctoral school, notably by proposing specific training for doctoral candidates (see chapter 12 *Continuing professional education for doctoral candidates*) and supervisors.

CHAPTER XVI

INTELLECTUAL PROPERTY AND ETHICS

The production of new knowledge and new tools resulting from a doctorate is part of an ethical framework, certain modalities depending on the legal framework of intellectual property.



Scientific honesty with regard to the quality and originality of scientific results, as well as respect for their authorship, come under the rules of the professional deontology of researchers. The legislation relating to intellectual property, defined in the Intellectual Property Code (CPI), deepens and completes these provisions in certain specific cases of doctoral candidate productions. According to the World Intellectual Property Organisation (WIPO), *“intellectual property refers to creations of the mind, i.e. inventions, literary and artistic works and symbols, names, images and designs used in commerce”*. A doctoral candidate may thus be the author of a work protected by copyright, an automatic protection that does not require any formality on the part of the author: in this case, the doctoral candidate benefits from moral rights and economic rights over the work. He can also be the originator of a patentable invention, thus allowing the owner of the invention, i.e. the doctoral candidate’s employer, to request the filing of a patent application in order to protect the invention: in return for this protection, the invention will be automatically published 18 months after the filing of the application.

Doctoral candidates are also obliged to respect the intellectual property of others. They can be trained in this in different ways, particularly by contacting the appropriate research promotion service.

Research ethics

Like all members of their research unit, doctoral candidates are subject to the respect of scientific deontology. During their doctorate, they receive training in research ethics and scientific integrity⁽¹⁾.

1. [article 3](#) of the order of 25 May 2016 relating to the doctorate.

Various texts provide references regarding the professional integrity of researchers⁽²⁾. These resources include the Singapore Declaration and the European Code of Conduct for Research Integrity at the international level and, for example, at the national level, the French Charter of Research Deontology. These documents deal in particular with the themes of the authenticity of data and its conservation, the communication and publication of results, the deontology of signatures and acknowledgements for publications.

These principles may be supplemented by specific provisions in certain research fields, such as the Declaration of Helsinki on the ethical principles applicable to medical research involving human beings⁽³⁾, or the Code of Ethics of the International Sociological Association⁽⁴⁾.

The work contract signed by the doctoral candidate includes a confidentiality clause concerning his work in progress. He is also required to respect the confidentiality of the work of which he becomes aware, for example, during participation in scientific collaborations, informal seminars, or evaluations of unpublished research projects or work.

Respecting the confidentiality of innovative ideas is crucial for researchers because concepts and ideas can only be protected by secrecy. Their materialisation (product, process, work, etc.), on the other hand, can be protected:

- by copyright for literary and artistic works,
- by the filing of a patent for inventions,
- by secrecy,
- by copyright or patent, for software.

The ethics of research require that plagiarism and counterfeiting be prohibited. Moreover, these bad practices expose their author to legal pursuits⁽⁵⁾ (articles L335-2, L335-3, L335-6, L335-7 of the French Code of intellectual property) and to academic sanctions⁽⁶⁾.

2. In France, the French Office for Scientific Integrity (OFIS) was created in 2017, constituting a department of the High Council for the Evaluation of Research and Higher Education (HCERES), whose mission is to monitor and observe the application of the French Charter of deontology for Research Professions and to lead the referents on questions of scientific integrity in the institutions. OFIS lists documentary resources on scientific integrity on its website: <https://www.hceres.fr/Ressources-documentaires-sur-l-integrite-scientifique>.

3. <https://www.wma.net/fr/policies-post/declaration-dhelsinki-de-lamm-principes-ethiques-applicables-a-la-recherche-medicale-impliquant-des-etres-humains>

4. <http://www.isa-sociology.org/fr/a-propos-isa/code-dethique/>

5. See the criminal conviction for counterfeiting: Cour de Cassation Chambre Criminelle n°09-84034

6. See for example the decision n°NOR ESR50900024S of 3 June 2008 of the CNESER, Conseil national de l'enseignement supérieur et de la recherche, and the European practices of academic sanctions in the matter of plagiarism (<http://plagiarism.cz/ippheae/>)

Publications and copyright

Articles and thesis manuscript

During the doctorate, articles and the thesis manuscript are written. Each of these written productions is protected, whatever its state of progress, by copyright (see below the section entitled “Copyright”). Obtaining this does not require any formality: an article or manuscript is automatically protected as it is written.

Once the article has been written, the question of its publication arises. Part of the copyright is then transferred by a publishing contract to the publisher, who may also charge a publication fee. These contracts are associated with two main families of scientific journals: on the one hand, journals of the “open access” type, where access is free for readers but sometimes paid for by authors, and on the other hand, journals which require payment by readers. This is what is called the “gold open access” to research results.

Moreover, the [article 30](#) of the law for a Digital Republic, of 7 October 2016, authorises authors to make their scientific writings available free of charge in digital form to the public, when they are the result of research at least half financed by public funding, and when they are published in a periodical journal appearing at least once a year, even though the publishing contract confers on the publisher an exclusive right over the work. This possibility of self-archiving corresponds to the “green open access”. The version thus made available to the public is the final accepted version including the authors’ modifications after peer review, also called the “post-print” version, without the formatting according to the graphic charter of the publisher. This authorisation is nonetheless regulated: authors remain subject to the clauses of other contracts signed with their collaborators, the agreement of all the co-authors is necessary, and the version distributed by the author under cover of this law cannot be used for commercial purposes⁽⁷⁾ (for example, the authorisation to disseminate does not apply to commercial sites such as ResearchGate or Academia). It is also specified that, whatever the embargo imposed by the publisher, it can be reduced to 12 months in the field of “*humanities and social sciences*”, and to 6 months in the field of “*science, technology and medicine*”. The European Commission has taken a position in favour of open access (whether it is green or gold) since the Horizon 2020 framework programme provides for the obligation to make available to the public free of charge the publications resulting from research funded or co-funded by the programme⁽⁸⁾. Institutional open archives such as the French open

7. [FAQ on the Digital Republic Law](#) by the Couperin Consortium

8. [European Commission Recommendations on Open Access to Publications and Research Data funded by the Horizon 2020 Programme](#) on access to and preservation of scientific information

archive HAL⁽⁹⁾ developed by the CNRS allow the dissemination of these versions by researchers.

Research data can also be published (article L300-2 of the Code of relations between the public and the administration, paragraph 10 of article L122-5 of the Code of the intellectual property), for example in association with an article or *via* a submission in a repository. Before obtaining the results, it is advisable to define the publication strategy in a data management plan⁽¹⁰⁾, in accordance with the data management policy of the employer and the institution.

In addition to the open access movement, the “open science movement” aims to make all research-related processes more accessible to the general public, in particular by giving access to research data. This approach notably favours the reproducibility of the experiments carried out, and the reuse of data by ensuring that they are archived permanently.

In certain cases, it is not relevant to publish the written manuscripts (see sections “*Patent protection*” and “*The secret*” below). The service dedicated to the valorisation of research results of the institution or employer can then be contacted for more information on this question.

The thesis manuscript written by a doctoral candidate is considered to be a personal work⁽¹¹⁾, which means that the doctoral supervisor has no rights over the work. It is possible, in a work contract, to provide for the transfer of the copyright on the thesis manuscript to the employer, but it is strongly advised not to accept this type of clause because it would prevent the doctoral candidate from publishing his thesis. It is preferable to establish a separate contract for the transfer of rights once the thesis manuscript is completed, which may or may not include financial compensation. In the case where the thesis manuscript incorporates published articles or articles in the process of being published, it is necessary to check with the publisher to ensure that distribution is authorised, or to withdraw these articles from the distributed version. If these articles involve more than one author, the conditions for dissemination are detailed in the section on “*Copyright*” below.

Furthermore, the dissemination of the thesis to the general public, by the institution of the doctoral enrolment, is left to the choice of the doctoral candidate (article 25 of the order of 25 May 2016 relating to the doctorate). In the absence of a confidentiality clause, it is advisable to accept this dissemination in order to promote access to the results of the doctoral project (see chapter 18 *Thesis writing and defence*).

9. <http://hal.archives-ouvertes.fr>

10. European Commission, *Guidelines on Data Management in Horizon 2020*, 2013

11. judgment of 4 June 2004 of the Court of Appeal of Paris, 4th chamber, section B, n° 2004-243680

Copyright

To be protected by copyright⁽¹²⁾, a work of the mind must meet two criteria: it must be original, i.e. it must bear the personality of its author, and it must be materialized in a form that can be perceived by the senses. Theories and scientific ideas are therefore not protected, whereas the source code of a software, an oral communication, a poster, an article or a thesis manuscript are protected works.

Copyright includes moral rights and economic rights.

Moral rights

Moral rights are “*perpetual, inalienable and imprescriptible*” (article L121-1 of the CPI). They are therefore non-transferable and automatically attributed as a result of the creation of a work, without fulfilling any formality (contrary to the patent which requires a deposit). For the author, they cover:

- the right of authorship, which allows him to claim authorship of his work and to indicate his name next to the title of the work (article L121-1 of the CPI);
- the right of respect for the work, which makes it possible to prevent it from being distorted (article L121-1 of the CPI);
- the right of disclosure, which allows him to decide when and how his work will be disclosed to the public (article L121-2 of the CPI);
- the right of repentance or withdrawal, which allows the author to withdraw his work; this withdrawal can even be carried out, subject to compensation, if the author has assigned certain exploitation rights to the work (article L121-4 of the CPI).

A work is said to be “*collaborative*” when several natural persons participate together, “*composite*” when it includes pre-existing works without the participation of their authors, or “*collective*” when it is published on the initiative of a natural or legal person and results from the fusion of the contributions of several authors. In practice, a scientific article is a collaborative work, which means that the authors decide together on the distribution of the article. A book, on the other hand, can be considered a collective work: the coordinator owns the rights to the whole book, but the authors can independently distribute the chapters they have written without competing with the coordinator.

Economic rights

The economic rights allow the author to benefit from the exploitation of his work and to control this exploitation.

They include in particular:

12. Technical sheets on copyright and similar rights, of the Ministry of Culture

- the right to reproduce the work, whatever the medium ([article L122-3](#) of the CPI). It is however authorised to reproduce the work partially for the purpose of analysis or citation (right of citation, [article L122-5](#) of the CPI) or entirely in a press review, provided that the name of the author appears and that the reproduction is justified;
- the right of representation ([article L122-2](#) of the CPI) which consists of communicating the work to the public (recitation, projection, television broadcast, etc.).

Reproduction and representation rights are transferable independently of each other but require the institution of a formal transfer contract with the assignee⁽¹³⁾. These rights cannot be assigned a priori, i.e. before the creation of the work, as long as the work is neither individualised nor determinable in the assignment contract.

Respecting and enforcing intellectual property plagiarism

Documents written in the context of a doctorate respect the legislation on intellectual property. The publication of a work which does not respect copyright is considered by the [article L335-2](#) of the Code of intellectual property as an offence of counterfeiting, commonly called plagiarism.

In particular, the reproduction of other works respects the rules relating to the right of citation, i.e. the need to indicate “*clearly the name of the author and the source*” ([article L122-5](#) of the CPI). In order to distinguish this citation from the original content written by the author, any cited passage will be clearly indicated by the use of inverted commas. The fact of being the author of a publication does not necessarily authorise the author to use it directly in a subsequent publication: on the one hand, restrictions may be imposed by the publisher of the initial publication, and on the other hand, the publisher of the second publication may require that the submitted results be original.

The institution implements an active policy to fight against plagiarism. It provides its doctoral candidates with information on the rules of intellectual property. It supports its doctors in the event of plagiarism in their doctoral work. It encourages the detection of plagiarism by improving the referencing and visibility of its theses on the web.

The doctoral school can also offer doctoral candidates specific training on intellectual property (see chapter 12 *Continuing professional education for doctoral candidates*).

13. <https://www.service-public.fr/professionnels-entreprises/vosdroits/F22667>

Patent and counterfeiting

Patent protection

As explained on the site of the National Institute of Industrial Property (INPI), the patent makes it possible to protect a technical invention, which can be a device, a process or a method,⁽¹⁴⁾ hereafter “*invention*”. Patentable inventions are defined by exclusion and do not include scientific discoveries, aesthetic creations, game rules and information presentations⁽¹⁵⁾. The notion of invention is explained by jurisprudence as a technical solution to a technical problem. The object of the patent must meet the following three conditions:

- novelty: the invention must not already be known, in particular, the researchers themselves must keep it absolutely secret until the application for the patent is filed. It is therefore necessary to proscribe publications, oral or poster communications (an abstract published during a congress can be enough to invalidate the novelty of a creation), non-confidential thesis defences and training reports.
- implication of an inventive activity: the invention must not be obvious to a person familiar with the state of the art at the time. In France, this criterion is not a blocking factor for the granting of a patent. However, a judge may overturn a patent following the claim of a third party if he considers that the invention does not involve an inventive step.
- possibility of industrial application: the invention must be applicable and potentially economically valuable.

Property of the patent

A patent may be initiated by the doctoral candidate, in consultation with the other possible inventors. The writing of a patent is an exercise that responds to very specific demands, which requires the help of the research unit’s valorisation service. The valorisation service may call upon the services of specialists on intellectual property from a consultancy firm.

The patent distinguishes the inventors from the owners:

- the inventors are the natural persons who have had an inventive part in the development of the innovation;
- the owners of the patent are the employers of the inventors: all the owners are then co-owners of the patent and have identical rights and obligations, including the right to transfer their property rights.

14. articles L611-1 to L615-22 of the Code of intellectual property

15. article L611-10 of the Code of intellectual property

**IMPROPER PRACTICES**

Employing a doctoral candidate without having him sign a work contract runs a legal risk for the institution where he works in terms of intellectual property. Indeed, in the absence of a work contract, the doctoral candidate has no obligation of confidentiality and is the owner of his results.

Employees are required by law to declare their inventions to their employer so that the employer can decide whether to file a patent application⁽¹⁶⁾.

A patent is registered by the owners. In return, they acquire a monopoly of exploitation of the patent, for a maximum of 20 years, in return for an annual royalty paid in each country where the patent is extended. The owners can also have the patent exploited by a third party by transferring it, granting a licence, creating a company, etc. In the event of non-payment of annuities, the rights are forfeited and the invention is no longer protected.

In all cases, when an inventor is not the owner, the employer is obliged by law to provide financial compensation. For public research institutions and organisations, this may take the form of a patent bonus and/or an interest on royalties. This provision applies to permanent and contractual staff.

Protection and transfer of know-how

Not all research work is likely to be protected by a patent, either because the criteria for patentability are not met, or because it is not relevant (risk of counterfeiting too great, cost too high, etc.). A company may, for example, need an experimental protocol developed by a researcher. This protocol is an unpublished and unpatented know-how of the research unit, but indispensable to the company in order to carry out its activity. In this case, it is possible to describe this know-how in a confidential document, and to draw up a contract for the communication of this know-how between the research unit and the company.

The counterfeiting

The exploitation of an invention protected by a patent is called counterfeiting. A published invention does not imply that it is free of rights, so it is essential to include databases of patents (such as the [espacenet.com](https://www.inpi.fr/fr/comprendre-la-propriete-intellectuelle/le-brevet/li-nventeur-est-un-salarie) database developed by the European Patent Office) in one's bibliographic watch to avoid being a counterfeiter.

16. <https://www.inpi.fr/fr/comprendre-la-propriete-intellectuelle/le-brevet/li-nventeur-est-un-salarie>

If an organisation wishes to exploit a patented invention, it must request a licence from the owner. This licence may be exclusive or non-exclusive, free of charge or involving a fee.

The secret

It is also possible to protect an invention by a secret. This can be part of a business strategy or it can be used, in particular:

- for unpatentable inventions or when the counterfeiting is too difficult to prove (for example synthetic processes);
- in certain sectors such as defence.

This strategy is very restrictive since it implies that all those involved in the secret are bound by their contract to the strictest confidentiality. It is also necessary to ensure that all documents are visibly stamped “*confidential*” and that any thesis defence or internship is conducted behind closed doors.

The choice to carry out a doctorate for which all or part of the results will be secret can be a handicap for embarking on an academic career, where the publication of results is a fundamental criterion. Companies wishing to be involved in a doctoral project will also be concerned to publish as many of their results as possible (article or patent) so as not to penalise the doctoral candidate.

If competitors manage to reproduce the invention, nothing prevents them from exploiting it. Protection by secrecy therefore involves risks that are important to bear in mind. In the event of a dispute, one way to date the invention is to use the Soleau envelope or the laboratory notebooks. This practice does not prohibit competitors from exploiting an invention, but allows to claim its paternity by demonstrating the anteriority of the invention or the work.

Specific case of software

In France, as in the rest of Europe, the source code of software is considered to be a work of the mind automatically protected by copyright. In the case of authors of software who are employees or public servants, they retain their moral rights of authorship over the software, but the economic rights associated with the source code are automatically transferred to their employer when the software was written while performing their duties or according to the instructions of their employer⁽¹⁷⁾. Software, on its own, cannot constitute an invention that can be registered as a patent in Europe. A specific protection should then be considered.

17. article L113-9 and décret n°96-858 du 2 octobre 1996 relating to the interest of certain public servants and employees of the State and its public institutions who have participated directly in the creation of software, in the creation or discovery of a new plant variety or in valued work

Strategy of protection

In Europe, the source code and the documentation are protected by copyright. This protection does not require any filing formality to obtain it. In order to certify the creation of a new software, it can be registered with the APP, the Agency for the Protection of Programs⁽¹⁸⁾.

Some softwares can be defined as a technical solution to a technical problem. An invention cannot be denied patentability on the grounds that at least one of the steps of the claimed process is performed by a computer driven by a programme, thus allowing the patenting of particular functions of a software that are part of a larger technical solution.

Free software

The choice of an open source licence or a proprietary licence for the distribution of software developments made within the framework of a doctoral project depends on the intended use of this software and on the strategy of valorisation planned by the doctoral candidate and the supervisor. It is advisable to make this choice before writing the programme, possibly taking advice from the institution's research valorisation department. A free licence does not mean an absence of protection, but a freedom of exploitation within the framework defined by the licence.

Software is considered free if the user has the freedom to use it, to have access to its source code to understand how it works, to modify it, and to distribute the software and its modifications.

In order to have access to free software, the user accepts the conditions of the licence defining the extent of the user's rights and obligations. The articles L323-2, D323-2-1 and D323-2-2 of the Code of relations between the public and the administration detail the list of free licences that can be used in the public administration; the most up-to-date version is available on the page <https://www.data.gouv.fr/fr/licences>. The content of the licence should be read carefully as it may oblige the user to distribute under a free licence all software incorporating the free software piece concerned by the licence. It is also possible that a software incorporates two pieces of free software subject to mutually incompatible licences. In this case, it is advisable to rewrite the code of the pieces in question so as not to be subject to the obligations of these licences.

Finally, all free licences contain a limitation of responsibility clause indicating that the software is provided as is and that the author does not guarantee the performance or the adequacy of the software to the user's needs. The CeCILL licence also stipulates that the author "*does not guarantee [...] that the software does not infringe any third party intellectual property right [...]*". Thus, the user will not be able to turn against the author of the software if he is accused of counterfeiting following the use, modification or redistribution of the software.

18. <http://www.app.asso.fr/>

CHAPTER XVII

REPRESENTATION OF DOCTORAL CANDIDATES

Participating in decision-making bodies (in particular by voting), improving practices (especially those specific to doctorate), or circulating information: doctoral candidates need to be represented on all committees and councils of the structures in which they are involved. This presence is positive and constructive for higher education and research. Including doctoral candidates as stakeholders in their professional environment also leads to their taking responsibility and autonomy, by participating in the collective recognition of the professional status of researchers at the beginning of their career.



Nature and challenges of the representation of doctoral candidates

The main issues

The representatives of the doctoral candidates intervene on questions that concern all researchers: scientific orientations, working conditions, functioning and projects of the research unit and the institution, research management, promotion, dissemination of scientific culture, continuing professional education and mobility during or after the doctorate.

They also bring their point of view as researchers at the beginning of their career⁽¹⁾. This specificity is dealt with in administrative bodies through the recruitment of doctoral candidates, the integration of new doctoral candidates into the research units, relations with other categories of researchers, the quality of doctoral supervision, the mediation of conflicts, the monitoring of the doctorate by the doctoral schools, the specific challenges of doctoral missions, the preparation and obtention of their doctoral diploma, the career advancement or the monitoring of doctors by the doctoral schools. The temporary nature of the doctorate also raises questions related to the limited duration of contracts and possible extensions of the doctorate (see chapter 14 *Duration of doctoral project and possible extension*).

1. *The European Charter for Researchers* (2015)

Challenges of an active doctoral representation

Widely involving doctoral candidate representatives in all bodies allows to bring up both good practices and possible problems in a quick and efficient manner. The wealth of opinions within committees and councils leads to decisions that are beneficial to the whole system, in particular by taking into account the rights and interests of doctoral candidates.

The full integration of doctoral candidates into their working environment allows them in particular to understand the organisation of the research structures of which they are members, and to train themselves in the issues and reflections that they may pursue in their professional future.

Institutions, doctoral schools, research units, doctoral supervisors, doctoral candidates who have already been made aware of the issues, and elected representatives are all key players in making all doctoral candidates aware of the themes and issues related to their representation. This is part of their integration into the professional world, emphasising the importance of its democratic functioning.

In order to encourage communication between doctoral candidates and their representatives, the names of the latter and a means of contacting them are made public, notably through the structure's website. On the other hand, their representation activity is encouraged by providing them with opportunities to meet, to disseminate information and to carry out surveys.

Actions of doctoral candidate representatives and reflection structures

The doctoral candidates' representatives fulfil an intermediary function in several ways: they can prepare summaries for the administrative bodies, but also disseminate adapted practices emanating from the decision of the committees and councils.

They also allow doctoral candidates to be involved in the concrete modalities of the governance of academic structures at all levels (see below the section "*Doctoral candidates in the diversity of representation bodies*"). In this capacity, they may be asked to give their opinion on specific and relevant points falling within their competences. These actions can be exercised during various decision-making processes, but also during the recruitment procedures of doctoral candidates or the evaluation of institutions. Participation in committees and councils is accompanied by tangible means of expression such as voting or any other practice that gives effective weight to the deliberations.

Structures such as associations of early-stage researchers and unions are tools for gathering opinions and perpetuating the experience and skills acquired by the elected representatives or any other doctoral candidate wishing to gain perspective on his own professional situation or wishing to benefit from the expertise of his colleagues, through the situations he encounters. The knowledge and skills necessary for representative activities can also be provided by continuing professional

education modules (see chapter 12 *Continuing professional education for doctoral candidates*). Numerous transversal skills, such as the ability to speak in public, to work in a team or to prepare summaries, are common to the research activity and to the action of representation of doctoral candidates.

The need for a specific and adapted representation

Specificities

Doctoral candidates represent a specific population of researchers. In 2014, among the 274 000 public research and higher education personnel, there were 76 000 doctoral candidates⁽²⁾. Moreover, their professional situation is by nature limited in time, which constitutes a form of precarity, in the sense that a professional evolution will necessarily take place at the end of this period.

This finite temporality results in adapted terms of office. The type of election is often direct suffrage by peers, but can be indirect in case of synergies between the positions of the representatives. The duration of the mandate of the doctoral candidate representatives is consistent with the duration of the doctoral project. Thus, a duration of four years, or even three years, should be avoided; in the case where it is imposed by regulations, a mechanism facilitating the replacement of the elected representative, in case of loss of doctoral candidate status, is proposed to ensure that doctoral candidates always benefit from a satisfactory representation in the various bodies. The conservation of the experience of the elected representatives is reinforced when the substitute is authorised to sit in the event of the absence of the titular elected representative, or the replacement of the latter when he resigns at the end of the doctorate.

A proper and authentic representation of this professional category, with adapted terms and conditions, is therefore indispensable.

Current limitations to the recognition of the doctorate as a professional activity

The doctorate constitutes a professional research experience (article L612-7 of the Education Code). A work contract for this research activity (see chapter 4 *Funding plan of the doctoral project*) is necessary to ensure good working conditions. Doctoral candidates thus become part of the staff of their employing organisation.

Moreover, doctoral candidates are registered in an institution that will award them the doctoral diploma. By participating in the research output of the institution where they are registered as doctoral candidates, they share the problems and concerns of other researchers, whether permanent or not.

2. [table 38.01](#) and [table 35.01](#) of the 2017 edition of *Higher education & research in France, facts and figures*

As a vital and indispensable force in research and teaching, non-permanent doctoral candidates, like their permanent colleagues, carry out missions such as scientific and technical research as well as the promotion of its results, and also, for many of them, initial and continuing education, the dissemination of culture, scientific and technical information and international cooperation. They are therefore represented in the bodies in order to be able to express themselves on these subjects.

Access to the representation bodies is notably done through electoral colleges: some of them exist for the staff and others, separate, for the users of the enrolment institutions, the so-called “beneficiaries” of the public education service ([article L719-2](#) of the Education Code).



IMPROPER PRACTICES

The representation of non-permanent researchers and teacher-researchers in higher education, i.e. doctoral candidates and doctors in non-permanent positions, is currently split between the college of users and the college of tenured teacher-researchers. However, their missions and concerns are similar to those of their permanent colleagues: their most appropriate representation is among the staff.

Moreover, considering the non-permanent nature of their employment, as well as the nature of formative professional experience at the beginning of their career, certain organisations such as the French National Association for Doctorate Holders (ANDès) and the French Confederation of Early-stage Researchers (CJC) propose representation in a specific electoral college for doctoral candidates and doctors with a fixed-term contract (CDD) among the staff⁽³⁾.

Doctoral candidates in the diversity of representation bodies



IMPROPER PRACTICES

The representation of doctoral candidates in the councils of the units is not guaranteed by the national regulation. The institutions that supervise these units must therefore be careful to include provisions in the internal regulations of the research units and the doctoral charters ([article 12](#) of the order of 25 May 2016) of the doctoral schools that depend on them.

3. <http://cjc.jeunes-chercheurs.org/expertise/college-specifique/>; http://andes.asso.free.fr/download/ANDes_contribution_ESR.pdf

Doctoral candidates are represented in various bodies. Local councils:

- laboratory council⁽⁴⁾;
- council of the doctoral school⁽⁵⁾, council of the doctoral college.

Councils and committees of institutions:

- council of a university component⁽⁶⁾;
- decision-making or consultative bodies of the institutions:
 - public institution of a scientific, cultural and professional nature (EPSCP)⁽⁷⁾
 - public institution of a scientific and technological nature (EPST)⁽⁸⁾
 - public institution of an industrial and commercial nature (EPIC)⁽⁹⁾;
 - association of universities and institutions (ComUE)⁽¹⁰⁾;
 - joint advisory committee⁽¹¹⁾, conflict resolution committee;

National structures:

- National Council for Higher Education and Research (CNESER)⁽¹²⁾;
- Ministerial Technical Committee for Higher Education and Research (CTMESR)⁽¹³⁾.

4. in research units under the supervision of the CNRS, [decision n°920368SOSI of 28 October 1992](#)

5. [article 9](#) of the order of 25 May 2016

6. [article L713-1](#), fourth paragraph of [article D719-9](#) and [article D719-4](#) of the Education Code

7. [articles L712-3, L712-5 and L712-6](#) of the Education Code

8. representation arrangements specific to each EPST

9. representation arrangements specific to each EPIC

10. [articles L718-11 and L718-12](#) of the Education Code

11. Advisory committees for contractual doctoral candidates (CCDC) were created by the [decree n° 2009-464 of 23 April 2009](#) relating to contractual doctoral candidates. It is stated in its [article 10](#) that: *"An advisory committee is set up by the internal regulations of each institution to deal with individual questions relating to the professional situation of contractual doctoral candidates. It includes, in equal proportions, representatives of the scientific council and elected representatives of contractual doctoral candidates. This committee gives reasoned opinions to the head of the institution. It may be referred to at the initiative of any contractual doctoral candidate or of the head of the institution"*. This article was modified by [article 13](#) of the decree of 29 August 2016 relating to contractual doctoral candidates in public higher education or research institutions. These modifications abolish the existence of the CCDCs, *"any question of an individual nature relating to the professional situation"* of contractual doctoral candidates being henceforth dealt with by the joint advisory committees of the employing institutions ([article 1-2](#) of decree no. 86-83 of 17 January 1986 relating to the general provisions applicable to contractual agents of the State). However, the CCDCs remain competent on these issues until the professional elections of December 2018 and the mandate of their members is maintained ([article 15](#) of the decree of 29 August 2016).

12. [order of 24 March 2015](#), [circular of 10 March 2015](#) and [circular 19 March 2015](#)

13. [decree of 15 February 2011](#); <https://web.archive.org/web/20190314195418/http://www.enseignementsup-recherche.gouv.fr/cid82277/elections-professionnelle-s-qui-vote-pour-quelle-s-instance-s.html>

CHAPTER XVIII

THESIS WRITING AND DEFENCE

This chapter describes the organisation of the writing and the preparation of the defence of the thesis (planning, composition of the jury, preparation and procedure).

The Education Code stipulates that “*the doctoral diploma is awarded after the defence of a thesis or the presentation of a body of original scientific work*”. The writing of this thesis is an integral part of the doctoral project. The time required for this writing has been included in the overall doctoral project. Under no circumstances should the writing be done outside of the project.

The thesis defence is the concluding event of the doctorate which allows the early-stage researcher to present his research work and to debate it with a jury of specialists. It is an important step in terms of identity and professional recognition, allowing the candidate to demonstrate the quality of his work and to show his involvement. It is also a moment of sharing with colleagues and relatives who have supported the candidate.



Writing

The writing of the thesis manuscript is one of the stages of the scientific assessment of the doctoral project.

The form of the thesis is not precisely defined by law or regulation. The [article L612-7](#) of the Education Code provides for the possibility of simply presenting a set of original scientific works, within the framework of a “*thèse sur travaux*”, but even in this context, we note that a manuscript is systematically requested⁽¹⁾. A digital medium is preferred for the thesis, except when paper copies are requested by the *rapporteurs* (jury members who submit a written report on the thesis). The institution then takes charge of printing of the thesis ([article 24](#) of the order of 25 May 2016 relating to the doctorate).

1. <http://moodle.abes.fr/mod/resource/view.php?id=781>

The aim of writing a thesis is to ensure the dissemination of the results of the doctoral work to the scientific community. This personal work by the doctoral candidate also ensures that he masters a number of research skills: a synthetic and critical approach, both to the literature and to his own results, writing skills, time management, etc.

The manuscript is a structured scientific document, which contains a presentation of the subject and the research problem, a state of the art which reviews the state of knowledge on the subject, the results which were obtained, a discussion of those results and their perspectives, the bibliographical references that were used, etc.

This manuscript may include articles that are already published or in the process of being published: in this case, it is necessary to ensure that the rules of intellectual property of the journal in question are respected (see chapter 16 *Intellectual property and ethics*). Clauses imposed by a publisher to transfer the totality of the copyright are abusive and without value in France. However, it is necessary to verify that the form of the article is not the same as that of the published article.

According to the [article L121-3](#) of the Education Code, the thesis is written in French. However, the doctoral schools may tolerate that the thesis be written in another language, in particular when the members of the jury or the doctoral supervisor are foreigners and do not master the French language, or for criteria specific to each discipline. Other exceptions are provided for, notably in the case of the *cotutelle* ([article 21](#) of the order of 25 May 2016). When the manuscript is not written in French, it is completed by a “*résumé substantiel*” (substantial summary) in French.

Developing the detailed structure of the manuscript is an important step. For example, delimiting the boundaries of the state of the art as well as possible allows one to concentrate on the research problem treated in the thesis. The design of the thesis outline is naturally done in consultation with the doctoral supervisor.

However, it is recommended not to wait for a detailed outline to be established before starting to put the research in writing. This can take the form of intermediate summary notes that will be discussed with the doctoral supervisor, allowing regular exchanges between the doctoral candidate and his research team (see section “*Regular monitoring and supervision*” of the chapter 11 *Supervision and monitoring of the doctoral project*).

Once the thesis outline has been established, it is advisable to define a retro-planning of writing, limited in time and included in the doctoral training agreement⁽²⁾, which states:

- the submission dates to the doctoral supervisor for each portion of the manuscript;

- a way of communicating with the doctoral supervisor so that he can transmit his comments on the reviewed portions;
- safety margins in the event that additional work is required, following feedback from the doctoral supervisor or the obtaining of new results;
- the choice of the *rapporteurs* and the constitution of the jury;
- a date for final submission compatible with the deadlines required by the *rapporteurs* and the administrative procedures (see below the section entitled “*Preliminary steps to the defence*”), in relation to the estimated date of the defence.

It is particularly important to respect intellectual property (see chapter 16 *Intellectual property and ethics*). Namely, any borrowing of text, figures, data, etc., must be clearly identified, for example by using inverted commas for citations. The source is mentioned in the form of a bibliographic reference, so that it can be easily and unambiguously found. In the case of collaborative work, the contributions of the partners should be identified in the manuscript.

The doctoral candidate is invited to use software to detect plagiarism in his manuscript, in order to avoid borrowing passages initially written by himself or by his co-authors. Some institutions make this verification compulsory or carry it out themselves.



IMPROPER PRACTICES

The size, content and style of the thesis manuscript depend on academic criteria, which vary according to the scientific field. However, one must beware of certain practices that sometimes reflect a certain nostalgia for the “*thèse d'état*”, which require that those wishing to pursue their career in the academic sector write doctoral theses of several hundred pages, to the detriment of the clarity or quality of the results presented.

It is important, both for the doctoral candidate and the doctoral supervisor, to resist the temptation to add more and more results to fill out the thesis. Regularly ensuring that the progress of the writing corresponds to the initial schedule will allow for adjustments to be made to the scope of the results presented and the pace of work on the manuscript.

The thesis is not the work of a lifetime, but a stage in a career: the obtaining and writing of new results can be continued in the context of a career in public or private research. The success of a doctorate is not judged by the sum of the results obtained but by the capacity to master all research skills, and to see them partly reflected in the manuscript.

Preliminary steps to the defence

The institutions awarding the doctoral diploma set up a procedure for the defence, in order to respect the obligations imposed by the regulatory texts.

Composition of the jury

The doctoral candidate and his doctoral supervisor decide together on the composition of the jury based on scientific aspects and the professional project of the doctoral candidate. The director of the doctoral school gives his opinion on their proposal for the jury, which is definitively validated by the head of the institution, in accordance with [article 18](#) of the order of 25 May 2016. The rules for the composition of the jury are as follows:

- the jury is composed of 4 to 8 people;
- at least half of them are people from outside the doctoral school and the institution;
- at least half of them are professors or equivalent (research director for example);
- a president of the jury is designated by the members of the jury from among the professors or equivalent, with the exception of the doctoral supervisor;
- the jury composition must allow for a balanced representation of women and men.

The doctoral supervisor *“takes part in the jury, but does not take part in the decision of the jury”* ([article 18](#) of the order of 25 May 2016).

In addition to these rules, each doctoral school may add further criteria for the composition of the jury, in particular with regard to the members of the doctoral candidate’s individual monitoring committee.

Designation of the rapporteurs

Two *rapporteurs* are appointed by the head of the institution, on the proposal of the director of the doctoral school, after opinion from the doctoral supervisor, in accordance with [article 17](#) of the order of 25 May 2016 relating to the doctorate. The *rapporteurs* are researchers who hold the habilitation to direct research (HDR), external to the doctoral school and the doctoral candidate’s institution, unless the research field or the content of the work does not allow it. However, it is possible to ask the research commission of the institution for an exceptional dispensation in order to designate a *rapporteur* who holds a doctorate but does not have an HDR: this request must be justified and motivated by scientific reasons. The *rapporteur* must not have a direct link with the work carried out during the doctorate in order to avoid a conflict of interest. According to [article 17](#) of the

order of 25 May 2016, “a third *rapporteur*, recognised for his competence in the field”, may be appointed on the proposal of the director of the doctoral school and after the opinion of the doctoral supervisor, “in the case of work involving persons from the socio-economic world who do not belong to the academic world”.

The *rapporteurs* are responsible for evaluating the doctoral candidate’s manuscript, which will be sent to them sufficiently in advance, and for providing a written report authorising or not the doctoral candidate’s defence. These reports will be brought to the attention of the other members of the jury and the doctoral candidate at least 14 days before the defence. In order to best appreciate the quality of the work carried out, it is useful that the *rapporteurs* be members of the jury.

Defence authorisation

The defence authorisation is proposed by the doctoral supervisor, in consultation with the doctoral candidate.

The doctoral school may have asked the doctoral candidate to meet certain criteria in order to be authorised to defend, such as participate in an international conference, publish one or more research articles as first author or validate a certain number of hours of continuing professional education.

After receiving the opinion from the doctoral school, the validation of the composition of the jury and the reports of the *rapporteurs* by the institution, the head of the institution authorises the doctoral candidate to defend his thesis.

In the event of a refusal of defence without giving reasons, the doctoral candidate has two months to lodge a legal appeal in order to find out the reasons for the refusal⁽³⁾.

Submission of the thesis manuscript

The reporting of a thesis in preparation may be optional, but the institution entitled to award the doctorate is obliged to report defended theses. The doctoral candidate is therefore required to submit his thesis manuscript to the institution where he will defend the doctorate, in electronic format. This submission must be made before the defence: the minimum deadline is set by the institution, at least one month before the date of the defence (article 24 of the order of 25 May 2016). This is a legal submission that serves to archive the thesis. As soon as it is submitted and up to three months after the defence, the doctoral candidate may also choose the methods of diffusion of the manuscript by the institution. In order to fight against plagiarism, an attestation signed by the doctoral candidate may be requested at the time of submission, certifying that the doctoral candidate is indeed the author of the manuscript and that the authors of the citations are identified.

3. article L232-4 of the Code of relations between the public and the administration, decision of 18 May 2004 of the Administrative Tribunal of Versailles

The submission of the thesis manuscript can be made throughout the year, however, most institutions are closed during the summer and the end of year holidays: the doctoral candidate should anticipate these closures.

Defence

Aims of the defence

The aim of the defence is to present the results obtained during the doctorate before a jury of experts, both to examine the scientific validity of these results, and to certify that the doctoral candidate has indeed acquired the skills necessary for research work. The doctoral candidate is expected to show his ability to present his results in a fluent and pedagogical way. The questions asked by the jury make it possible to evaluate the extent of the candidate's scientific knowledge and critical perspective on his work, and to verify that he has a global vision of the scientific context and has acquired the research autonomy.

At the end of the defence, the jury certifies that the diploma of doctorate has been obtained, before it is published and delivered by the institution ([article 19](#) of the order of 25 May 2016). The date of the defence is considered to be the date of receiving the doctorate⁽⁴⁾. Gaining this diploma confers the grade and academic title of doctor.

Defence procedure

The defence is a public event, except in the particular cases detailed in the following section ([article 19](#) of the order of 25 May 2016). It is important to prepare (booking a room, sending out invitations, etc.) and announce the event sufficiently in advance to ensure that it is publicised. This announcement could be published on the research unit's website and mailing lists. It is customary for the doctoral candidate to invite to his defence his supervisors, colleagues, collaborators and other people involved in his doctoral project, as well as people involved in their activities beyond research, friends and family members, etc.

The defence is a unique opportunity to discuss one's doctoral project for several hours with one's peers, members of the scientific community. The defence is divided into two parts:

- an oral presentation by the doctoral candidate who presents his research work that generally lasts between 20 and 45 minutes;
- an exchange between the doctoral candidate and each of the members of the jury, led by the president of the jury, on his research work, his manuscript and his oral presentation, in the form of questions and answers, a debate or comments.

4. decision of the Court of Appeal of Toulouse of 10 June 2015

The jury then retires to deliberate, which leads either to an adjournment or an admission. In the case of admission, the president of the jury announces this decision by proclaiming the award of the title of doctor. Traditionally the public applauds this announcement and then congratulates the new doctor. After the completion of the defence, it is customary for the doctor to invite the jury and the public to a cocktail party, as the defence is an event worth celebrating.

A defence report signed by the jury is sent to the doctor in the month following the defence. It provides the detailed opinion of the jury on the completed work, on the defence and on the skills developed by the doctoral candidate.



IMPROPER PRACTICES

Although any reference to the possibility of doctoral mentions has disappeared from the regulatory framework since the order of 25 May 2016, some institutions, and even some doctoral schools within an institution, allow a mention to be granted to the doctoral candidate. This mention is indicated in the defence report. The mentions cannot however constitute clear information, due to the absence of harmonised criteria for their attribution.

Defence behind closed doors

In the case where the doctoral candidate's work has led to confidential results, it is advisable to organise the defence in a way that protects that confidentiality. The members of the jury then sign a confidentiality agreement assuring that they will not divulge any confidential results of which they may become aware during the defence.

It is recommended to ensure a public oral presentation of the work whenever possible. The doctoral candidate will then take care not to include any confidential elements in his presentation. The discussion with the jury, which may deal with confidential aspects developed in the manuscript but not present in the oral presentation, may take place behind closed doors, i.e. after having removed the public from the room.

If all of the doctoral candidate's research work is confidential, the defence may be organised *in camera*, i.e. in the presence of the jury only, or with a reduced audience, ensuring that all members present are bound by confidentiality.

It is important to remember that the signing of a confidentiality agreement may result in legal action being taken against the person who divulges confidential information (see chapter 16 *Intellectual property and ethics*). The penalties will be proportional to the damage

suffered as a result of this disclosure. However, the confidentiality agreement does not prevent ill-intentioned persons from disclosing confidential results and the damage caused can be considerable. Therefore, in order to reduce the risks, it is advisable to limit as much as possible the number of people who have knowledge of these results.

Dissemination of the manuscript

After the defence, the doctor has three months to submit a final version of the manuscript ([article 24](#) of the order of 25 May 2016), in particular in the case where the jury has deemed it necessary for the doctor to make corrections. The jury may agree to the publication of the manuscript without revisions. In this case, minor corrections may be added, such as the removal of spelling, grammatical or typographical errors, etc., or the addition of acknowledgements. Conversely, if the jury requests substantive corrections, a new agreement will be necessary before the publication of the manuscript.

It is obligatory to make the thesis available within the institution of defence and more generally “*within the whole university community*” ([article 25](#) of the order of 25 May 2016), for example in the library for a paper version or on the intranet of the institution for an electronic version. The doctor’s authorisation is required for distribution on the internet. He can also choose to delay the publication of his thesis, for example by 6 or 12 months. This delay can notably allow the publication or the protection of certain results present in the manuscript.

A thesis can be labelled “*confidential*”. The person in charge of the establishment of the thesis defence decides on the confidential nature of the thesis, on the advice of the members of the jury. In this case, the thesis will be published on the internet or intranet only at the end of the period of confidentiality.

For the electronic distribution of theses, the ABES (Agence Bibliographique de l’Enseignement Supérieur) coordinates the work of the library professionals involved in the thesis circuit via the management application STAR (Signalement des Thèses électroniques, Archivage et Recherche) and the public portal theses.fr which indicates both defended theses and theses in preparation. If the doctoral candidate has given his agreement to be published on the Internet, the thesis will be published directly via this portal or will be relayed by HAL, more precisely TEL, the instance dedicated to online theses⁽⁵⁾. If the doctoral candidate has personally submitted his thesis manuscript to TEL, a second version will be created at the time of document processing by his institution, without deleting the original.

5. <http://tel.archives-ouvertes.fr>

Following the defence of their thesis, doctors are sometimes contacted by publishing houses which offer to publish their thesis manuscript within a very short time, free of charge, with a royalty on sales and a free print copy for the author. As the thesis is not subject to any form of revision or arbitration, these practices do not correspond to the usual modalities of scientific publication. The thesis may be published in a book as part of a process of scientific valorisation or public dissemination of the results (see chapter 11 *Supervision and monitoring of the doctoral project*), discussed with the doctoral supervisor. If publication costs are expected, they will be covered by the doctoral candidate's employer.

It is the doctoral candidate's responsibility to remove from the public version of the manuscript any confidential information or elements for which he does not have the rights (photos, illustrations, texts...). He will then submit two versions, and the one with the problematic passages removed will be published on the internet. Furthermore, doctoral candidates who have carried out their research in partnership with a company must obtain the agreement of the company before the publication of the manuscript, according to a procedure determined beforehand.

Doctors are advised to authorise the distribution of their thesis for the following reasons:

- to make the results of their research known to the scientific community and thus contribute to the free access to science;
- to fight against plagiarism by facilitating the search for the authorship of their own work.

Finally, once the results of research are protected by a title of intellectual property, it is quite possible to disseminate them. Indeed, the dissemination of the manuscript does not prevent the doctor from having his thesis published by a publisher: the editorial process will modify the form and arrangement of the content sufficiently so that the public manuscript does not compete with the published version of the thesis.



IMPROPER PRACTICES

The writing of the thesis and the defence of the thesis are two important stages in the evaluation of the quality of the doctorate, whether it is the scientific quality of the work carried out or the level of research skills developed. There are several errors that can be detrimental to the proper appreciation or valorisation of this quality.

Choosing a jury that is able to judge the doctoral candidate's work objectively is a necessity. If the doctoral supervisor proposes a complacent jury, the latter's indulgence regarding the quality of the work would devalue the doctorate awarded. Conversely, choosing a jury composed of members whose

work contradicts that of the doctoral supervisor represents a danger for the doctoral candidate. The risk is that the jury will focus on the positions of the doctoral supervisor and not on the quality of the work presented.

The awarding of doctoral mentions has several disadvantages. On the one hand, the perception of mentions is difficult to harmonise at the time of attribution and a posteriori. Moreover, since the most coveted award is given to most doctoral candidates, any other award could be perceived negatively.

Furthermore, the awarding of a less coveted mention could constitute a temptation for a jury wishing to award a doctorate to a person for whom one of the elements of the selection process should not have led to the award of the diploma.

Finally, even though the defence of the thesis is the final step before obtaining the doctoral diploma, it is not the only evaluation step. Successful completion of the doctorate is in fact the consequence of several stages:

- the doctoral recruitment ;
- the fact of having completed one's research project;
- the writing of a manuscript which has been assessed and validated by representatives of the relevant scientific community;
- the obtaining of the authorisation for the defence by the doctoral school and the *rapporteurs*;
- the success of the defence before a jury of experts.

Although this selection process may lead, throughout the doctorate, to the termination of the project (see chapter 20 *Premature termination of doctorate*), in the case of success, it leads to a defence. The success of these stages is a guarantee of the quality of the doctor.

CHAPTER XIX

CONCLUSION OF THE DOCTORAL PERIOD

Concluding the doctoral period consists of finishing one's work, transmitting methods and tools, and organising one's departure, but also summing up and reflecting on the perspectives. It is therefore important that the doctoral candidate takes the time to do these things before the end of his work contract, even if reflections are carried out throughout the doctorate. The assessment should be built from two points of view: professional, including scientific aspects and the assessment of skills, and personal. This will also allow the preparation of the search for employment, particularly by updating one's portfolio⁽¹⁾, one's CV and one's digital identity.



End of scientific work

The end of the scientific work is not limited to the manuscript and the defence, but includes the transmission of methods and results (in particular to other actors of the doctoral project: funder, research unit, doctoral school, etc.) as well as the finalisation of certain valorisations of the work. The scientific assessment is updated until the end of the doctoral project, so that the doctoral candidate's successors can acquire the necessary background to carry out original work that is in line with the logic of a specific scientific community.

Manuscript and thesis defence

One of the final stages of the doctoral project consists of the finalisation of the writing of the thesis manuscript and the subsequent defence. The thesis and its defence are the deliverables of a doctorate intended by [article L612-7](#) of the Education Code and articles [19](#) and [23](#) of the order of 25 May 2016 relating to the doctorate (see chapter 18 *Thesis writing and defence*). The end of this period does not systematically mark the end of the doctoral project.

1. [article 15](#) of the order of 25 May 2016 relating to the doctorate

Valorisation of work

All the results and methods developed during the doctoral project are transmitted at several levels: within the research team, among the partners of the doctoral project, within the scientific community and more widely within civil society and the economic world.

The finalisation of the formatting of scientific findings, during the writing of the thesis manuscript or during exchanges with the defence jury, is often the moment to put everything into perspective and develop new ideas. This can notably lead to an enrichment of unfinished scientific articles or to prospects for future work for the research team. The time of the doctoral project remaining after the defence is therefore appropriate for possible corrections of the thesis manuscript and for the finalisation of articles which will allow the dissemination of the results to the scientific community, as well as establishing an assessment and perspectives.

It is also important to disseminate the results beyond the actors of the doctoral project, in particular to the economic world, the scientific community and to society as a whole. These deliverables planned within the framework of the project can be articles, patents, communications in congresses or events intended for a non-specialist public (see chapter 11 *Supervision and monitoring of the doctoral project*), according to the planning established during the doctoral project. The valorisation of results or processes developed during the doctoral project may also lead to the creation of a company (see chapter 23 *Careers of doctorate holders*).

In order to ensure the international dissemination of the results of the research work, a communication work in a second language is desirable, particularly in the case where the thesis and its defence are in French.

Departure, transmission of results and methods

In the last weeks of the doctoral project, and even if transmissions have already taken place throughout the doctoral project, the doctoral candidate (or doctor) ensures that his work can be reused by the colleagues of his research unit currently present as well as by future arrivals. The thesis manuscript is obligatorily deposited in the institution of defence, but the thesis is not the only object to be transmitted. The doctoral candidate thus prepares:

- the oral or written transmission (guides, protocols) of the methods and tools developed within the framework of the project;
- the transmission of digital or handwritten data produced or collected within the framework of the project: experimental data, source files of articles or figures, bibliographic data, analysis tools (software and computer codes for example);

- the return and transmission of material used for the project and not belonging to the project: equipment, computers, books and documents, products of experiments, office, keys and access badges to the laboratory and office, etc.

The doctoral supervisor, especially during a formal meeting, can serve as a referent for the collection of transmissions which he will redistribute to the appropriate person. In particular, the deliverables will be useful in communicating with the project's partners, whether they are funders or teams that have collaborated on the research.

The end of the doctoral contract is accompanied by administrative changes that need to be managed: handing over of the office key, closing of computer accounts, deactivation of the e-mail address, addition to the list of alumni on the research unit's website, launching of the doctoral career monitoring procedure (see chapter 23 *Careers of doctorate holders*), etc. Before losing access to services provided by the employer (office, computer account, access to the work computer or to certain documents such as the laboratory notebooks), the doctoral candidate also makes an assessment of the data to be kept for the rest of his professional career, respecting the rules of intellectual property, and carries out the necessary personal archiving, subject to authorisation.

At the end of his work contract, the doctor asks the human resources department of his employer for the work certificate as well as the attestation which will allow him, if necessary, to register with the *Pôle Emploi* - French employment office. It is important to note that the opening of the rights to the back-to-work allowance must take place at the latest 12 months after the end of the contract⁽²⁾. At the same time, the doctor must ensure that his social security situation is up to date⁽³⁾. If he is a foreigner and holds a residence permit mentioning "passeport talent", he may be able to renew this residence permit for the duration of the rights he has acquired, if he so wishes, which will allow him to look for a job in France while receiving back-to-work allowances (article L313-20 of the CESEDA). To do this, before the expiry of the residence permit, he must bring the necessary documents to the prefecture⁽⁴⁾, certifying the involuntary deprivation of employment⁽⁵⁾.

2. article 7 of [General regulations on unemployment insurance](#)

3. <https://www.ameli.fr/assure/droits-demarches/etudes-emploi-retraite/change-ment-situation-professionnelle>

4. The foreign doctoral candidate must provide proof of the termination of his employment and of his rights with regard to the compensation schemes for involuntarily unemployed workers (article R313-80 of the CESEDA and [list of supporting documents for the issuance of a residence permit "passeport talent"](#)).

5. The end of a CDD is considered to be an involuntary deprivation of employment, see page 3 of the circular of 30 July 2013, which can be consulted on page 47 of the [official bulletin of the Ministry of the Interior n°2013-8](#).

Professional assessment of the research project

At the end of the doctoral project, it is necessary to conduct a professional assessment of this research experience and it is advisable to carry it out in part with the doctoral supervisor, who can be a source of suggestions for reflection and contacts, while at the same time being able to look back on previous situations. Beyond the doctoral project, the doctoral supervisor also has an interest in following the professional trajectory of the doctor (see chapter 22 *Tracking the career development of doctorate holders*), at least for his own professional network, that of the research unit and that of future doctoral candidates.

The doctorate does not only allow the acquisition of knowledge and skills specific to the research theme, but also transversal knowledge and skills that can be developed through any doctoral project to varying degrees depending on the individual. During the doctorate, training through research, these assets can be developed through research activity.

Writing an assessment of skills : usefulness and methods

The objectives of the assessment of skills

The professional reflections throughout the doctorate deserve to be completed at the end of the doctoral period by an assessment of skills in order to:

- make the doctoral candidate aware that he is operational for his career in academic research as well as in corporate research, or more broadly in related fields or in other sectors of activity;
- prepare the necessary steps for his further career in the event that the next job has not yet been found: preparation of a CV, cover letters, interviews or auditions.

Conducting such an assessment allows the doctoral candidate to become aware of his own skills and to learn how to value them, notably by using an adapted vocabulary and by highlighting adequate know-how and social skills. This assessment will be a definite asset during a future recruitment process.

Conducting an assessment of skills

An assessment of skills can be conducted in various ways.

On the one hand, it can be carried out by the doctoral candidate himself. Certain tools are available to facilitate the self-assessment of skills⁽⁶⁾.

On the other hand, the doctoral candidate's continuing professional education (see chapter 12 *Continuing professional education for doctoral candidates*) can also provide him with tools and a methodology to ensure the evaluation and development of his skills. Other structures also offer support with this objective, such as the Evaluation of Competences and Professional Capacities of the *Pôle Emploi* (French employment office), which is accessible to doctors looking for employment⁽⁷⁾.

Finally, the assessment of skills defined in French legislation and organised by the regional centre of the FONGECIF, a fund for the management of individual training leave⁽⁸⁾, is accessible to doctoral candidates and doctors and is covered without financial participation on their part in several cases:

- if they have been employed in the private sector for more than 5 years, including one year's seniority in their current company (see articles L6313-1, L6313-10, L6322-42 to L6322-51 and R6322-32 at R6322-63 of the French Labour Code⁽⁹⁾);
- if they have been paid under a fixed-term contract in the private sector for 24 months out of the last 5 years, including 4 months during the last 12 months⁽¹⁰⁾;
- if they can show proof of 10 years' service in the State or territorial civil service⁽¹¹⁾;
- if they can prove 2 years of service, consecutive or not, in the hospital public service⁽¹²⁾.

Specific skills and an assessment of knowledge

Once the thesis has been defended, it is important to take the time to complete the preparation of a scientific assessment specific to the

6. For example, the *DocPro service*, developed by the Association Bernard Gregory (ABG), the Conference of University Presidents (CPU) and the MEDEF, enables doctoral candidates to evaluate and illustrate their level of mastery of some twenty key researcher skills; a tool provided by the ABG specifically designed for the self-assessment of competences, is designed to be used by the doctoral candidate each year of the doctoral project, in order to help him set objectives and assess their achievement; the *Researcher Development Framework* designed by Vitae also proposes a classification and an awareness of these competences.

7. <http://www.pole-emploi.fr/candidat/l-evaluation-des-competences-et-des-capacites-professionnelles-eccp-/@/article.jspz?id=60639>

8. <https://www.mon-cep.org/>

9. <https://travail-emploi.gouv.fr/formation-professionnelle/droit-a-la-formation-et-orientation-professionnelle/bilan-competences>

10. <https://www.service-public.fr/particuliers/vosdroits/F3087>

11. <https://www.service-public.fr/particuliers/vosdroits/F3027> and <https://www.service-public.fr/particuliers/vosdroits/F2282>

12. <https://www.service-public.fr/particuliers/vosdroits/F33300>

host team and the research field. The doctor has, indeed, acquired knowledge at the cutting edge of his theme of research during the doctorate, and has also developed skills related to it, such as the use of certain specific work tools.

It is recommended to carry out this scientific assessment with the supervisors of the doctoral project. In addition to the transmission of know-how, this discussion is appropriate for the development of scientific perspectives within the host team but also specific to the young doctor. The scientific achievements may have an influence on the doctor's future career plans. In this context, the doctoral supervisor may have indicated certain avenues during the course of the doctorate. On the other hand, the research perspectives of the doctor and the doctoral supervisor, whether in the public or private sector, may overlap and a future joint project may be envisaged.

Scientific network and environment assessment

Since the beginning of his doctorate, the doctoral candidate has developed a scientific network through colleagues, tenured or not, in his research unit or institution, as well as those met during conferences, or during research projects and partnerships. It is important for the doctor to identify this network, which could help him to develop future research projects or partnerships that include a research component.

In addition, knowledge of the institutional structures where work in the doctor's field is carried out will enable the doctor to identify possible job opportunities. Outside the academic sector, for careers in research or research support, this knowledge will be an asset for setting up partnerships, for example to target the right contact person.

Transversal skills assessment, source of multiple career paths

The doctoral candidate also acquires a large number of skills related to research but which can also be developed and transferred to other professional sectors.

When he takes into account the transversal skills acquired during the doctoral project, in the reflections defining the professional path after the doctorate (see chapter 21 *Skills developed during the doctorate*), the doctoral candidate and consequently the young doctorate holder can objectively approach the panorama of career paths available to him (see chapter 23 *Careers of doctorate holders*).

Professional and personal assessment of the doctoral period as a whole

During the doctoral project, the doctoral candidate may be required to carry out activities beyond research that contribute to his professional and personal development. On the other hand, he naturally evolves on a personal level: these evolutions, which do not necessarily stem from the conduct of the doctoral project, can nevertheless change the perception and therefore the way the doctoral project is experienced.

Assessment of activities beyond research

Until the end of the doctoral project, the details of professional experience gained from activities beyond research are updated: teaching, dissemination of scientific and technical information, promotion of the results of scientific and technical research, and missions of expertise (see chapter 13 *Activities beyond research during doctorate*).

Volunteering activities linked to the doctorate (representation of early-stage researchers, participation in the evaluation of HCERES, associative activities, etc.) can also be considered as professional experience and be taken into account in the assessment of knowledge and transversal skills.

Certain cumulative professional activities outside of research are authorised by the decree of 23 April 2009 (see chapter 13 *Activities beyond research during doctorate*) and can be included in the professional assessment. The same applies to another regular and qualified professional activity carried out throughout the doctorate within the framework of a part-time doctorate (respecting the specific conditions listed in chapter 14 *Duration of doctoral project and possible extension*).

Assessment of the professional network and environment

The network of scientific contacts and the knowledge of academic institutions are useful not only for possible scientific objectives, but also more widely for professional projects. Beyond his scientific network, the doctor has also developed a professional network as a result of non-scientific encounters made during activities linked to the research (for example fieldwork, administrative procedures, promotion of research), or outside of it (see section “*Assessment of activities beyond research*” above). If the doctor has not yet joined an online professional network, this assessment period is suitable for such an initiative.

It is therefore important to realise that this professional network is a source of information and contacts for the doctor, who will be thus able to support his search for the next job.

The doctoral project is also a space for acquiring broader knowledge, such as knowledge about the working environment and the socio-economic context in which the doctoral candidate and then young doctor carried out their doctoral project.

Assessment of personal developments

The doctoral period constitutes a period of life. On a personal level, it also enriches the doctoral candidate with new social skills. Certain events, in particular family or health-related events, can have an impact on the schedule of the doctoral period (see chapter 14 *Duration of doctoral project and possible extension*) but also on the way he views the doctorate. The professional network may turn into personal relationships. During the doctoral period, rich in experiences and varied points of view, the doctoral candidate develops likes and dislikes, which can become motivations for choosing and building the next step in his career with a clear conscience. Beyond the scientific assessment, the professional and personal summaries make it possible to consider all open possibilities, in accordance with the emerging or reinforced motivations, for a well-considered career path.

CHAPTER XX

PREMATURE TERMINATION OF DOCTORATE

Doctoral withdrawal concerns a large number of doctoral candidates, with an average rate that varies from 5 % to 40 % depending on the research field⁽¹⁾. Various other reasons can lead to a premature termination of the doctorate, in particular dismissal by the employer. In all cases, the non re-enrolment in a doctoral programme and the breach of the work contract are governed by French legislation and regulations.



This chapter specifies what constitutes a premature termination of a doctorate (page 149), insisting on the need to accompany it. It then details the various possible reasons (page 152) as well as the legal conditions relating to such an early termination (page 153), in particular in terms of the rights of the doctoral candidate or the protection of the employer (page 155). Finally, it presents the consequences of such a termination (page 159).

Process of premature termination

Termination of a doctorate

The termination of a doctorate manifests as:

- the withdrawal from the work contract of the doctoral candidate;
- the termination of the scientific project;
- the non re-enrolment in doctorate.

It is possible that this situation occurs before the doctoral diploma is obtained. This is known as premature termination of the doctorate. Whatever the causes leading to the decision to terminate the doctoral programme, and leading the person, natural or legal, to the initiative for this decision, these three aspects are addressed. The related procedures are defined by the regulations.

1. HCERES, *Synthesis of the evaluation reports of the doctoral schools of the wave D*, March 2010

**IMPROPER PRACTICES**

The absence of a work contract is particularly penalising in the case of premature termination of the doctorate: even if it is possible for the doctoral candidate to make use of the skills acquired through this professional experience, the absence of a contractual framework makes it more difficult to provide documents justifying this experience, and in particular its duration.

Termination of the work contract

The decision to terminate the work contract comes from the doctoral candidate or his employer, whether it is a public or private structure. Regulated by French labour legislation (see section *“Procedures for early termination of the doctorate”* below), the implementation of this decision is handled by the doctoral candidate and the human resources department of his employer.

Whatever the duration of this work contract, the professional research experience and skills acquired in this framework may be valued, even if not all of them are as developed as they could have been at the end of a completed doctorate. In particular, the doctoral candidate will be able to use the assessment of this experience to prepare his future career.

The reasons for the termination of the work contract can be analysed by the doctoral supervisor, the doctoral school, the research unit and the employer in order to improve their recruitment, supervision and human resources management practices.

**IMPROPER PRACTICES**

A doctoral candidate may be tempted to interrupt his work contract before the end of his doctorate in order, for example, to accept a job offer corresponding to his professional objectives, while wishing to continue his doctorate. If all concerned actors are in favour of this, there is no legal provision preventing the doctoral candidate from continuing his doctorate and re-enrolling in his doctoral school. However, this situation greatly increases the risk of withdrawing from the doctorate and doctoral schools may impose conditions necessary for re-enrolment under such conditions.

Particular care should therefore be taken to ensure that all the conditions are met for the successful completion of a doctoral project for which the contractual conditions change during the project. If the doctoral candidate plans to finish his part-time

doctorate (at least half-time), it is important to ensure both the remuneration for the research activity as well as the access to the appropriate tools and professional environment (see chapter 14 *Duration of doctoral project and possible extension*). In the case of a second professional activity, an arrangement of the working time for the other job must be provided to maintain a weekly activity time compatible with the labour law (see in particular the [articles L3121-20 to 27](#) of the Labour Code).

The termination of the scientific project

The management of the scientific consequences of the termination of the project is the responsibility of the doctoral candidate, the doctoral supervisor and the director of the research unit. The aim is to determine the consequences of the interruption of the doctoral project, with regard to the scientific projects of the doctoral candidate, the doctoral supervisor and the research unit. This starts with an assessment in order to determine whether valuable scientific results have been obtained and in what form, and in what way they can be exploited. In particular, if the doctoral candidate has participated before the termination of his doctorate in obtaining scientific results, his contribution will be mentioned in the same way as that of the other collaborators, according to his involvement in the project.

End of the doctoral enrolment

At the time of the administrative re-enrolment requested annually by the doctoral candidate, the doctoral supervisor may issue a negative opinion. In this case, the doctoral supervisor sends this opinion and its justification to the doctoral candidate ([article 11](#) of the order of 25 May 2016 on the doctorate). From the third year onwards, the individual monitoring committee also issues an opinion. If the doctoral candidate disagrees with the refusal of re-enrolment, he may request a second opinion from the research board of the academic council. The final decision is taken by the head of the institution.

In the case of a doctoral contract, *“the contract of a contractual doctoral candidate shall be terminated automatically”* following the usual procedures for the end of a contract in the public service, according to the [article 3](#) of the decree of 23 April 2009.

Termination by non re-enrolment upon initiative from the institution therefore leads to a dismissal procedure that respects the modalities provided for by titles [XI](#) and [XII](#) of the decree of 17 January 1986 relating to the general provisions applicable to contractual agents of the State.

For other types of contract, non re-enrolment in a doctoral programme does not necessarily lead to a breach of the work contract.

However, in the case of a CIFRE agreement, the subsidy from the ANRT, which requires the transmission of the annual attestation of enrolment in a doctoral programme, is no longer paid.

There is no legal provision indicating that the breach of a doctoral contract or of a private law contract cancels the doctoral enrolment. This allows the parties involved to find a new work contract for the research activity, in order to continue the doctorate.

Accompaniment before and during the termination procedure

Any premature termination of a doctorate is prepared as well as possible by all the actors in order to favour the continuation of the doctoral candidate's career and to valorise the scientific work already done during the doctoral project that is going to be interrupted. As a preventive measure, the doctoral school provides information about the procedures in place to best accompany premature termination of the doctoral project.

When the termination of the doctoral project is envisaged, consultation of the prevention service (public sector) or the occupational medicine service (private sector) may be useful to prevent the psychological risks linked to this situation. The unexpected end of an ambitious project in which the doctoral candidate has invested personally can indeed be accompanied by a heavy psychological experience. This termination is likely to have consequences on the serenity, or even the mental health of the early-stage researcher, and thus compromise his future professional and personal projects. The occupational medicine service contacted is subject to medical secrecy and can provide assistance and an external point of view before a decision is made to end the doctorate. It can also recommend a medical consultation by a medical practitioner for a work interruption. If it seems relevant, it may ask the employer to carry out a field study about psycho-social risk factors in the work environment. The Health, Safety and Working Conditions Committee (CHSCT) may also be consulted by this department, or by all the actors involved, to propose improvements to the working environment. All these procedures preserve the anonymity of the doctoral candidate in question, if he so wishes.

Mediation procedures can be used at any time, before or during premature termination procedures. They are accessible to the doctoral candidate and the supervisor (see chapter 15 *Conflict management during the doctorate*) and ensure that discussions are held in a calm atmosphere between the concerned parties.

The individual monitoring committee of the doctoral candidate provided for by [article 13](#) of the order of 25 May 2016 relating to the doctorate is not intended to be a dismissal jury, it cannot constitute a dismissal interview. On the contrary, it is designed in particular to

help the doctoral candidate to move forward and reorient his work in case of difficulty.

As long as the breach of the work contract has not taken place, the doctoral candidate's work continues, except in exceptional cases (e.g. risks of safety due to the presence of the doctoral candidate in the research unit or exercise of the right of withdrawal by the doctoral candidate⁽²⁾).

Reasons which may lead to the premature termination of the doctorate

Withdrawal of the doctoral candidate

Perseverance and the ability to accept criticism are skills acquired throughout the doctorate. Thus, obstacles allow the doctoral candidate to develop his ability to adapt to an unfavourable situation, in order to avoid abandoning his research work. Mediation procedures can be put in place in case of conflict situations causing discouragement (see chapter 15 *Conflict management during the doctorate*).

However, the doctoral candidate may consider, without external pressure, that it is preferable to end his duties, both for him, because of his motivations (see chapter 2 *Motivations: from idea to project*) and his professional project, and for the project, because another person could more efficiently bring the project to its conclusion).

When withdrawing from the doctoral programme, the doctoral candidate discusses it with all the other parties involved in his doctorate. They may be able to convince him to continue the work, for example, by adapting the doctoral project to be more consistent with his new projects or motivations.

If the withdrawal from the doctorate is confirmed, the legal methods for breaking the contract can be resignation or dismissal by mutual agreement (see below).

Inappropriate professional behaviour of the doctoral candidate

The doctoral supervisor or other relevant parties may wish to discontinue a doctorate in the event that the doctoral candidate's behaviour is found to be inappropriate for a professional situation.

In the private sector, inappropriate professional behaviour corresponds to the grounds for dismissal for serious misconduct ([article L1243-1](#) of the Labour Code). In the public sector, inappropriate

2. [articles 5 et 6](#) of decree n°82-453 of 28 May 1982 relating to health and safety at work as well as medical prevention in the public service: "No sanction or deduction of salary may be taken against a member of staff or a group of members of staff who have withdrawn from a work situation which they had reasonable cause to believe presented a serious and imminent danger to the life or health of each of them"

professional behaviour corresponds to the following grounds for dismissal:

- for a disciplinary sanction ([article 43-2](#) of decree No. 86-83 of 17 January 1986 on the general provisions applicable to contractual agents of the State), the reasons for which may be insubordination, indiscipline, withdrawal from post, repeated absences without reason, failure to observe the rules of health and safety, violence at work, insults, moral or sexual harassment, theft;
- for professional inadequacy, for example following a lack of professional seriousness (repeated or prolonged unjustified absences, recurrent lateness, non-attendance, etc.).

Depending on the seriousness of the offence, certain indemnities may not be paid (see section “*Other indemnities*” below).

The loss of civic rights and other bans on public employment resulting from a court decision ([article 45-1](#) of decree n° 86-83 of 17 January 1986) can also lead to dismissal in the public sector.

Inaptitude of the doctoral candidate

A doctorate may be interrupted in case of inaptitude for research activity. This inaptitude may be the result of an illness (physical or psychological) or infirmity that prevents the student from continuing to work on the project. This inaptitude may lead to dismissal if it is recognised by an occupational physician ([article L1243-1](#) of the Labour Code for the private sector, [article 17](#) of decree n° 86-83 of 17 January 1986 relating to the general provisions applicable to the contractual agents of the State for the public sector).

Conflict

In case of conflict between the doctoral candidate and the doctoral supervisor, the doctoral school, the institution, the company (particularly in the context of a CIFRE contract), or the research unit, a mediation procedure is recommended in order to propose solutions, among which the termination of the doctorate (see chapter 15 *Conflict management during the doctorate*).



IMPROPER PRACTICES

Recognising that a conflict has occurred is not easy, and it is sometimes tempting to ignore it and to practice the “ostrich policy” of stopping the doctorate de facto but in an unofficial way: no longer going to the workplace, no longer supervising the doctoral candidate, etc. Poor working conditions (doctoral candidates without a work contract, no dedicated workspace for the doctoral candidate in the research unit, etc.) encourage the non-resolution of conflicts. It is advisable, on the contrary, to communicate between the actors of the doctorate, so as

not to let the conflict remain latent and to find solutions to formalised problems. However, a doctoral candidate in conflict must not allow himself to be destabilised by sustained pressure from other actors of the doctorate who could push him to resign, whereas a mediation procedure can lead, in the case of premature termination of the doctorate, to a dismissal, which is more protective for the doctoral candidate.

Economic reason

A private structure which is involved in the doctorate, in particular through an industrial convention for training through research (CIFRE), may wish to interrupt a doctorate for economic or strategic reasons. In this case, the dismissal of the doctoral candidate is governed by the procedures detailed in the following section.

Reasons of force majeure

In the private sector, reasons of force majeure may lead to dismissal (article L1243-1 of the Labour Code). These are external, irresistible and unforeseeable events leading, for example, to the permanent impossibility of using the workplace.

The procedures for the early termination of the doctorate

The work contract attributed to a doctoral candidate for his doctoral project may be terminated following the resignation of the doctoral candidate, the breach of contract by the employing institution, the company or the doctoral candidate, or the dismissal of the doctoral candidate by the employing company or institution.



IMPROPER PRACTICES

It is not appropriate for a doctoral candidate whose work contract has been broken to pursue the doctorate outside of any contractual framework. Indeed, even if the user status remains valid, or even if the re-enrolment is authorised by a doctoral school that would not impose the obligation of contractualisation on its doctoral candidates, the absence of a contractual framework leads in particular to working conditions that are not compatible with the exercise of a doctorate. Thus, the continuation of the doctorate will only be possible if an alternative funding solution has been found to contractualise the doctoral candidate and to ensure that the costs related to the end of the doctorate are covered.

Breach of contract during the trial period

Doctoral contract

According to [article 3](#) of the decree of 23 April 2009 relating to contractual doctoral candidates in public higher education or research institutions, the contract may include a trial period of two months. It is provided that *“during this period, the contract may be broken by either party, without indemnity or notice, by registered letter with acknowledgement of receipt”*. Point 1.4 of the [circular for the application of the provisions of this decree](#), dated 29 November 2016, specifies that the trial period is not obligatory and that it is not renewable.

Private law contracts

Private law contracts for the realisation of a doctoral project (in particular within the framework of a CIFRE) are governed by the Labour Code. For fixed-term contracts, [article L1242-10](#) specifies the terms of the trial period, which cannot exceed one month. Concerning open-ended contracts, [articles L1221-19 to L1221-24](#) determine the procedure for the trial period, which can be up to 4 months for executives, renewable once. The notice periods to be respected are also specified by the Labour Code in the case of a termination at the initiative of the employer ([article L1221-25](#)), or the employee ([article L1221-26](#)). In both cases, sending a registered letter with acknowledgement of receipt or hand-delivering it against a receipt makes it possible to keep track of the fact that the notice period has been respected.

Resignation

Public law contracts: doctoral contract and others

The procedure for the resignation of a doctoral candidate under contract is identical to that of other contractual agents in the public service. It is regulated by [article 48](#) of the decree of 17 January 1986 concerning the general provisions applicable to contractual agents of the State.

The doctoral candidate informs his employer by registered letter, respecting a notice period of 8 days or 2 months depending on his seniority. If the doctoral candidate does not return to work after a maternity or adoption leave, he must notify this intention at least fifteen days before the end of this leave.

Private law contracts

The [article L1237-1](#) of the Labour Code specifies that the terms and conditions for the termination of the contract at the initiative of the

employee (existence and duration of the notice period) are governed by collective agreements or conventions.

In the case of a fixed-term contract under private law, the term “early termination” is used when the employee does not complete the duration of the contract⁽³⁾. In this case, refer to the section “*other cases of contract termination*”.

Dismissal

Public law contracts: doctoral and other contracts

The dismissal of a doctoral candidate by his employing institution can occur for several reasons detailed in the [title XI](#) of the decree of 17 January 1986 relating to the general provisions applicable to the contractual agents of the State, which are applicable to doctoral candidates by the [article 10](#) of the decree of 23 April 2009 relating to contractual doctoral candidates, among others:

- disciplinary fault;
- professional inadequacy;
- physical inaptitude.

The same [article 10](#) specifies that the advisory committee⁽⁴⁾ may be seized by the doctoral candidate or the head of the institution to deal with issues relating to the personal situation of doctoral candidates. It is useful and necessary that it be systematically consulted for the breaches of doctoral contracts. For other public law contracts, the role of the conciliation committee is held by a joint advisory committee.

The convocation to the dismissal interview is sent by letter with acknowledgement of receipt or delivered by hand. This letter specifies the subject of the interview ([article 47](#) of the decree of 17 January 1986) and the date of the interview which cannot take place less than

3. <https://www.service-public.fr/particuliers/vosdroits/F2883>

4. Advisory committees for contractual doctoral candidates (CCDC) were created by [decree n° 2009-464 of 23 April 2009](#) relating to contractual doctoral candidates. Its [article 10](#) states that: “*An advisory committee is set up by the internal regulations of each institution to deal with individual questions relating to the professional situation of contractual doctoral candidates. It includes, in equal proportions, representatives of the scientific council and elected representatives of contractual doctoral candidates. This committee gives reasoned opinions to the head of the institution*”. It may be referred to at the initiative of any contractual doctoral candidate or of the head of the institution. This article was modified by [article 13](#) of the decree of 29 August 2016 relating to contractual doctoral candidates in public higher education or research institutions. These modifications abolish the existence of the CCDCs, “*any question of an individual nature relating to the professional situation*” of contractual doctoral candidates being henceforth dealt with by the joint advisory committees of the employing institutions ([article 1-2](#) of decree no. 86-83 of 17 January 1986 relating to the general provisions applicable to contractual agents of the State). However, the CCDCs remain competent on these issues until the professional elections of December 2018 and the mandate of their members is maintained ([article 15](#) of the decree of 29 August 2016).

5 days after the presentation of the letter. The doctoral candidate may attend this interview accompanied, for example, by representatives of the local association of doctoral candidates or of a union.

The dismissal interview specifies the reasons for the dismissal and, if it leads to the decision to dismiss, it gives rise to the sending of a letter with acknowledgement of receipt or its hand delivery. This letter specifies the reasons for the dismissal as well as its date, taking into account a period of notice depending on the length of the contract ([article 47-1](#) of the decree of 17 January 1986):

- 8 days for a contract of less than 6 months;
- 1 month between 6 months and 2 years;
- 2 months for more than 2 years.

Dismissal may not occur in the event of pregnancy, maternity, paternity or adoption leave, or until 4 weeks after its expiry ([article 49](#) of the decree of 17 January 1986).

Private law contracts

The procedures for dismissal in the private sector are set out in the Labour Code and collective agreements.

In particular, the dismissal of a doctoral candidate with a CDI for personal reasons is accompanied by the convocation of the employee to a dismissal interview, the interview in question and then the sending of a letter of dismissal. The principle of a dismissal for economic reasons is that a person should only be dismissed if the company shows that it has done everything in its power to avoid dismissal.

When the doctoral candidate is on a fixed-term contract (CDD), the company can only dismiss him for serious or gross misconduct or in case of force majeure. In particular, economic reasons cannot be a reason for dismissal. Any other breach of contract at the initiative of the employer entitles the doctoral candidate to receive indemnities.

Termination

The [article 3](#) of the decree of 23 April 2009 relating to contractual doctoral candidates indicates that the absence of renewal of the doctoral enrolment at the end of the first or second year leads to the end of the contract “*ipso jure*”. As stated by the [circular on the application of the provisions of this decree](#), this termination of the contract is analysed as an early termination of a fixed-term employment contract at the initiative of the employer, i.e. a dismissal.

The doctoral candidate whose contract is terminated therefore benefits from procedural guarantees and financial consequences (duration of notice defined by [article 46](#) of the decree of 17 January 1986, dismissal interview defined in [article 47](#), notification of dismissal defined in [article 47-1](#), dismissal indemnities, allowance for the loss of employment) provided for the other cases of dismissal

in accordance with the provisions of titles **XI** (end of contract, dismissal) and **XII** (dismissal indemnities) of the aforementioned decree of 17 January 1986.

By mutual agreement (private law contracts)

In the case of a private law CDD, outside the trial period, we speak of an “early termination” when the CDD does not come to an end. In particular, it can only take place in the event of an agreement between the employer and the employee; other cases are provided for⁽⁵⁾. It is advisable to draw up a document for amicable termination of the contract in order to reflect “*the clear and unequivocal will*” of each party to terminate the contract⁽⁶⁾. Concerning the possible prejudices to be paid by the employer or the employee, see the section “*Indemnities for dismissal*”.

Please note that conventional termination of contract and dismissal for economic reasons are not authorised for private law CDDs⁽⁷⁾.

The other cases of breach of contract

The [article 45-1](#) of the decree of 17 January 1986 indicates that “*loss of civil rights or disqualification from holding public office [...] shall automatically result in the termination of the contract, without notice or payment of the compensation provided for in Title XII*”.

The non-presentation of a valid residence permit by a foreigner is a real and serious reason for dismissal. However, it does not constitute serious misconduct and the person dismissed will receive end-of-contract indemnities that he is due⁽⁸⁾.

The consequences of the premature termination of the doctorate

The procedures for ending the doctorate described above have various consequences, detailed in this section.

The rights to unemployment

Doctoral candidates benefiting from a public or private law contract are eligible for the allocation of back-to-work allowance (*Aide au*

5. <https://www.service-public.fr/particuliers/vosdroits/F40>

6. [decision n° 93-40.192](#) of the Court of Cassation, Social Division, 21 March 1996

7. <https://www.service-public.fr/particuliers/vosdroits/N19611>

8. [decision no. 13-17.745](#) of the Court of Cassation, Civil, Social Division, 1 October 2014

Retour à l'Emploi (ARE)), as long as they are involuntarily unemployed and looking for a new job⁽⁹⁾. In particular, the expiry of a fixed-term contract (CDD under private law, doctoral contract, etc.) or its early termination is considered as an involuntary loss of employment⁽¹⁰⁾, as is dismissal. On the other hand, resignation is not considered an involuntary loss of employment and does not give the right to the ARE. An early termination of a private law CDD initiated by the employee does not entitle the employee to compensation for unemployment⁽¹¹⁾.

The job seeker registers with *Pôle Emploi* the day after the end of his work contract, with the end of contract certificate given to him by the employer. Depending on his employer, his file will not necessarily be managed by *Pôle Emploi*. In the case of early termination of a private law CDD, if the doctoral candidate is eligible, the unemployment benefits are only received after the initially planned end of the contract.

Foreign doctoral candidates who hold a “passeport talent” can obtain a renewal of their residence permit during their job search period, in accordance with the [article L313-20](#) of the Code of entry and residence of foreigners and the right of asylum. This residence permit allows them to register on the lists of job seekers, according to [article R5221-48](#) of the Labour Code. The application procedures are specified in a list of supporting documents drawn up by the General Directorate for Foreigners in France⁽¹²⁾.

If the employer is a public institution

There are different ways of receiving back-to-work allowances depending on whether the institution has chosen a self-insurance system or has decided to entrust the management of the risk of unemployment to *Pôle Emploi*⁽¹³⁾.

In the first case, the jobseeker will obtain from *Pôle Emploi* a letter of refusal to be taken in charge, which he will send to his former employer⁽¹⁴⁾.

In the second case, the jobseeker registers directly with *Pôle Emploi*, which will be his sole contact for the management of his file.

If the employer is a private structure

The job seeker's file is entirely managed by *Pôle Emploi*.

9. <http://www.pole-emploi.fr/candidat/votre-inscription-a-pole-emploi-@/article.jsp?id=60596>

10. <https://www.unedic.org/indemnisation/fiches-thematiques/demission>

11. <https://inspection-du-travail.com/ruptures-contrat/cdd-anticipee/>

12. <http://www.illevilaine.gouv.fr/content/download/31062/229754/file/CSP2-4%20chgt%20statut-passeport%20talent-chercheur.pdf>

13. http://circulaire.legifrance.gouv.fr/pdf/2012/01/cir_34530.pdf

14. <http://www.service-public.fr/particuliers/vosdroits/F12386>

Other indemnities

The attribution of various indemnities is possible according to the type of reason for the termination of the contract⁽¹⁵⁾.

Indemnities for dismissal

A doctoral student who is dismissed may be entitled to a dismissal bonus, depending on the type of contract he had.

In the case where the doctoral candidate had a doctoral contract and his dismissal is not a disciplinary sanction⁽¹⁶⁾, he benefits from a dismissal bonus. The bonus is then equal to 50 % of the net salary multiplied by the number of years of seniority, as long as the number of years taken into account is less than the number of months remaining in the contract at the time of dismissal. It is paid in one lump sum. For other types of public law contracts, the rules are explained by articles 51 to 56 of the [decree of 17 January 1986](#) relating to the general provisions applicable to contractual agents of the State.

A doctoral candidate on a fixed-term contract under private law who has been dismissed for any reason other than serious or gross misconduct or force majeure is entitled to indemnities in an amount at least equal to the remuneration he would have received until the end of the contract ([article L1243-4](#) of the Labour Code). He is also entitled to the planned end-of-contract indemnity amounting to 10 % of the total remuneration received ([article 1243-8](#) of the Labour Code).

It should be noted that in the case of a breach of contract by mutual agreement, the employer will have to pay the employee compensation for untaken paid leave as well as compensation at the end of the contract⁽¹⁷⁾. If it is indicated in the agreement that this breach of contract is at the initiative of the doctoral candidate, the latter could be deprived of the dismissal indemnity, according to [article L1243-10](#) of the Labour Code.

A doctoral candidate with a permanent contract under private law has the right to a dismissal indemnity if he has not been dismissed for serious or gross misconduct⁽¹⁸⁾.

Precarity premium

The precarity premium, or end-of-contract indemnity, is paid to employees who have had a fixed-term contract under private law that is coming to an end. However, there are a certain number of exceptions, notably if the doctoral candidate resigns, is dismissed for

15. <http://vosdroits.service-public.fr/particuliers/F1137.xhtml>

16. <http://www.service-public.fr/particuliers/vosdroits/F1137>

17. [decision no. 14-19.126](#) of the Court of Cassation, Social Chamber, 6 October 2015

18. <http://www.service-public.fr/particuliers/vosdroits/F987>, <http://www.service-public.fr/particuliers/vosdroits/F1137>, <http://www.service-public.fr/particuliers/vosdroits/F408>

serious or gross misconduct, or if the contract is broken during the trial period⁽¹⁹⁾. If the doctoral candidate benefits from a public law contract, he will not be eligible for the precarity premium.

The situation of doctoral candidates employed under a private law contract is however not entirely clarified. Indeed, the National Association for Research and Technology (ANRT) does not recommend the payment of the precarity premium, arguing that the doctorate is a training course. On the other hand, there is a jurisprudence of the Court of Appeal of Versailles in favour of the payment of the precarity premium for doctoral candidates CIFRE⁽²⁰⁾.

Indemnity for the notice period

The indemnity for the notice period is only paid to doctoral candidates who had a private law CDI, in the case where the employer exempts the doctoral candidate from submitting his notice⁽²¹⁾. If the doctoral candidate is dismissed for serious or gross misconduct, or if he is at the origin of the dispensation from the notice period, or if he is unable to carry out the notice period, the compensation for the notice period will not be paid.

Indemnity for the leave of absence

The compensatory indemnity for paid leaves is only paid to doctoral candidates who have a private law contract, in the event that they have not used up all the paid leave they had before the end of their contract⁽²²⁾. If the doctoral candidate is dismissed for serious or gross misconduct, the indemnity for paid leave will not be paid.

The assessment of the accomplished work

Before the termination of the doctorate, the doctoral candidate transmits the results he obtained and makes a professional and personal assessment with his supervisors (see chapter 19 *Conclusion of the doctoral period*). It is all the more crucial to organise a formalised transmission of the work carried out as the doctoral candidate has not written a thesis manuscript. It is nevertheless advisable to conduct an assessment of the accomplished work so that the research team can continue the interrupted research project. The doctoral school takes the necessary steps to remove the thesis from the “theses in preparation” on the site www.theses.fr, in particular.

With the help of the doctoral school, the doctoral candidate evaluates the most relevant way to valorise the research experience acquired during the doctorate: it can be envisaged to defend a university diploma, as proposed by certain universities, or to complete his

19. <http://www.service-public.fr/particuliers/vosdroits/F40>

20. <https://www.legifrance.gouv.fr/affichJuriJudi.do?idTexte=JURITEXT000024550880>

21. <http://www.service-public.fr/particuliers/vosdroits/F24660>

22. <http://www.service-public.fr/particuliers/vosdroits/F24661>

experience by a complementary training. The research work carried out during this period may complement work obtained later and allow the eventual obtaining of a doctorate through the validation of acquired experience (VAE).

Future of the research project

The premature termination of the doctorate does not necessarily mean the termination of the research project, even if it is no longer carried out by the doctoral candidate. Indeed, if the doctoral candidate does not continue the work, the research team can continue it thanks to the written and oral information that will have been transmitted by the doctoral candidate. The doctoral candidate's contribution will be mentioned in the different actions of valorisation of the work that will be carried out.

The employer informs the management of the research unit of the breach of the work contract. The latter informs the doctoral school and the institution of enrolment.



IMPROPER PRACTICES

In the absence of a work contract, the date on which the doctorate ends is by default the date of non re-enrolment. In practice, a premature stop can take place at any date: between the termination date and the end of the doctoral enrolment, the research project is suspended and the transmission of information by the doctoral candidate is made difficult. In order to materialise the termination of the doctorate, after an appropriate procedure, the unit may have to refuse the doctoral candidate access to the laboratory.

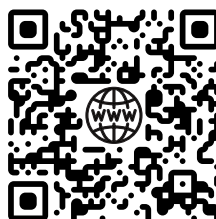
The search for the next job

The institution can also accompany the doctoral candidate in his job search in order to show its concern for the future of its personnel.

CHAPTER XXI

SKILLS DEVELOPED DURING THE DOCTORATE

Training through research enables doctors to develop a large number of skills, both in their research field and transversal, some of which are specific to them. The exercise of these skills is not limited to research and the academic sector, on the contrary, it is entirely transferable to other sectors, public, associative or private, in research or other functions, as is emphasised by the [article 1](#) of the order of 25 May 2016 setting the national framework for training and the methods leading to the award of the national doctoral diploma: *“The specific skills acquired during this training allow for professional activity after the doctorate in all fields of activity, research or beyond research, in the public as well as the private sector”*. A list of skills developed during the doctorate is thus registered in the *Répertoire National des Certifications Professionnelles* (RNCP)⁽¹⁾. The ANDès and the CJC are the initiators of this project of official recognition of the competences of doctors⁽²⁾.



Specificity of the skills acquired during the doctorate

Although doctoral candidates have each their own experience of the doctorate, linked to the specificity of their research subject, the practice of research provides them with a set of common skills that goes beyond the apparent differences due to the doctoral field of research⁽³⁾.

1. [order of 27 July 2018](#) fixing for higher education institutions the list of professional segments to which the doctoral diploma is attached

2. Press release ANDès-CJC of 25 January 2018: [Registration of competences shared by doctorate holders to the *Répertoire National des Certifications Professionnelles*](#)

3. Adoc Talent Management, *Skills and employability of doctors*

Skills developed through research activity

Doctoral candidates acquire and develop skills mainly through the activities they carry out throughout their research project. Indeed, independently of the doctoral candidate's involvement in the definition of his research project, his work as a researcher requires various skills, such as:

- social skills (open-mindedness, collaborative work, adaptability, etc.);
- professional qualities (writing skills, expertise in relation to the object of research, etc.)

These are developed from the beginning of the doctoral research project or the participation in its elaboration (see chapter 3 *Elaboration of a doctoral project*), through the conception and implementation of a research methodology (protocol, fieldwork, etc.) and up to the communication of results (see chapter 18 *Thesis writing and defence* and chapter 19 *Conclusion of the doctoral period*). The researcher progressively acquires and deploys skills which he can reinvest in other fields or for other purposes than those of research.



IMPROPER PRACTICES

The absence of remuneration for the preparation of a doctorate is sometimes presented as a factor that facilitates the acquisition of certain skills such as autonomy, project management, adaptability, perseverance, etc. Without denying the reality of these skills, it is important to remember that this discourse masks bad practices of supervision and the inappropriate working conditions. These can limit the acquisition of other essential skills (teamwork, for example), or allow it at the cost of an uncertain increase in the duration of the doctorate or even a risk of withdrawing from doctorate (see chapter 20 *Premature termination of doctorate*). Thus, the argument of skills development must not be used by supervisors to avoid actively seeking funding for the doctoral project. Funding for the research project includes, in addition to the doctoral candidate's remuneration, environmental costs, for example for participation in conferences, which is also necessary for the development of skills.

Skills that are provided, deepened or revealed by continuing professional education

The specific and transversal skills thus acquired are consolidated by continuing professional education (see chapter 12 *Continuing professional education for doctoral candidates*). This continuous training is necessary, even indispensable, for several reasons:

- adaptation to the workstation, deepening of acquired knowledge;
- evolution of the position, career path;
- identification of new skills, updating acquired knowledge, etc.

The regulations oblige doctoral schools to ensure that certain specific skills are acquired, notably through this continuing education. Indeed, according to [article 3](#) of the order of 25 May 2016 relating to the doctorate, doctoral schools “ensure that each doctoral candidate receives training in research ethics and scientific integrity” (see chapter 16 *Intellectual property and ethics*). The same article also insists on “interdisciplinarity and the acquisition of a broad scientific culture including knowledge of the international research context”.

Beyond the offer of continuing professional education specifically designed for doctoral candidates, making continuing education provided by higher education and research institutions accessible to all their staff allows them to increase and diversify their skills.

Skills provided by activities beyond research

A certain number of competences linked to research can also be acquired or deepened through non-research activities (see chapter 13 *Activities beyond research during doctorate*). For example, a teaching activity can develop skills in pedagogy, communication, group management and stress management; a mission as an expert in a company will test and develop one’s adaptability, ability to listen, summarise, and manage projects; an associative activity can complete the teamwork skills or create partnerships.

Monitoring and development of skills acquisition

According to the [article 3](#) of the order of 25 May 2016 relating to the doctorate⁽⁴⁾, monitoring the acquisition of skills is one of the missions of doctoral schools and colleges as part of their quality approach. They therefore ensure that specific mechanisms are put in place. During the individual monitoring committee, an assessment is made of the skills acquired or being acquired. In this context, the doctoral candidate updates his skills portfolio, accompanied by his supervisors or the

4. “[The doctoral schools] ensure a quality approach to training by setting up individual monitoring committees for doctoral candidates [and] define and implement support mechanisms for the pursuit of professional careers after the doctorate in the public and private sectors”

doctoral school⁽⁵⁾. The doctoral school can provide tools for the creation and updating of a portfolio. The individual monitoring committee is also the place to discuss complementary training that could be relevant to the doctoral candidate's project or career. Discussions and training courses help to raise awareness, identify and showcase the developed skills. Some specialised tools, such as MyDocPro, are support tools for these discussions or training sessions (see chapter 19 *Conclusion of the doctoral period*).

An assessment of skills is particularly adapted when the doctorate is stopped prematurely (see chapter 20 *Premature termination of doctorate*). This allows the skills acquired during the doctorate to be valued, even when the doctorate does not lead to the award of a diploma.



IMPROPER PRACTICES

Some institutions try to compensate for the lack of recognition of the skills developed during a doctorate by creating various restrictive continuing education courses, sometimes leading to the attribution of a label (higher education, skills for the company, etc.). These labels are added to the doctoral diploma and they validate some of the skills developed during the doctorate, notably by relying on complementary training cycles. However, their effect is the opposite of the intended: they devalue the doctorate by implying that the practice of research alone is not sufficient to develop the skills they validate. They also draw attention to certain skills to the detriment of others and create an artificial distinction between doctorates with a label and the ones without a label⁽⁶⁾. Finally, they force a doctoral candidate to follow a given path to obtain a label, even though he could have already acquired, by other means, the competences claimed by the label. Consequently, this prevents him from taking further training courses that are more in line with his needs. Conversely, institutions can obtain a label of excellence in terms of human resources which includes the principles of continuous professional development and the acquisition of skills⁽⁷⁾.

5. [article 15](#) of the order of 25 May 2016: "A doctoral candidate's portfolio comprising an individualised list of all the doctoral candidate's activities during their training, including teaching, dissemination of scientific culture or transfer of technology, and highlighting the skills they have developed during the preparation of the doctorate, is produced. It is regularly updated by the doctoral candidate."

6. <http://cjc.jeunes-chercheurs.org/positions/CP-dossier-de-presse-14-03-2016.pdf>

7. Ministry of Research (2015) *Model of internal analysis in view of obtaining a HRS4R label*

The support offered to doctoral candidates within the framework of continuing professional education can, in some cases, benefit other audiences: former doctoral candidates, doctoral supervisors or other professionals who wish to update their skills. To this end, doctoral schools can communicate to these groups the changes in their training catalogue.

List of skills

Below is a description of all the competences expected of doctoral graduates, acquired or reinforced during the preparation of the doctorate. This list is the result of a comparison of various studies⁽⁸⁾ or tools⁽⁹⁾ relating to the skills of doctors and a reflection on the research activity carried out during the doctorate, whatever the field.

This list is useful in several respects for all actors of the doctorate. Doctoral candidates can thus, throughout their training, follow the acquisition of their skills and also build their portfolio or CV. Supervisors can check that their supervisory activity allows the doctoral candidate to develop the skills that are expected of future doctors. Finally, institutions can use this list of competences to evaluate the applications of people wishing to benefit from the recognition of prior experience (VAE) to obtain a doctoral diploma.

Research skills of doctors

Designing a research project

Be able to:

- conceptualise, transpose a phenomenon or a complex situation into a research subject and problematise it;
- participate in the search for financial means dedicated to the research project;
- develop a research project that fits in with the concerns of the organisation, in relation to the national and international context, and that is likely to present added value in terms of knowledge, that is feasible given the negotiable and obtainable means (material, financial, human), the time available, the constraints and uncertainties;
- ensure a methodological monitoring (of tools, concepts or methods);
- realise an inventory of different sources beyond one's research field, identify the limits of knowledge, and possible avenues of exploration as well as controversial points deserving to be a subject of further work;

8. Vitae (2011) *Researcher Development Framework*; B. Durette, M. Fournier, M. Laffon (2012) *Skills and employability of doctors - survey report*

9. ABG, CPU, MEDEF (2015) *DocPro, The professional profile of doctors*, <http://www.mydocpro.org/fr/>; RNCP sheet relating to the doctorate at AgroParisTech https://www.agroparistech.fr/IMG/pdf/Fiche_RNCP_Doctorat_publicee_29-04-14.pdf

- maintain and continually develop their knowledge and skills;
- develop, according to a research approach, a critical analysis of scientific, technological, social or cultural production in the field under consideration, including in one's own production (capacity to accept criticism, to show humility, scientific doubt and ethics).

Completing a research project

Be able to:

- develop and implement a research protocol under maximum conditions of safety and control of hazards;
- carry out experiments, observations, simulations, interviews, demonstrations, etc., by guaranteeing reproducible methods and reliable results; demonstrate scientific rigour and integrity to ensure traceability and validity;
- choose and carry out data processing according to situations likely to be encountered;
- present and discuss the results and integrate them into the research protocol;
- propose changes to his project, listen to critical opinions of his colleagues;
- mobilise other members of his team or other actors in the implementation of his project, while knowing how to identify the work to be carried out independently;
- manage or take into account the constraints and material, financial, human and legal means relating to the project, interact with and convince the other actors involved in the project;
- manage his time and maintain his enthusiasm whatever the hazards apprehended step by step, in order to make the project progress.

Valorisation and transfer of research results

Be able to:

- take a step back on the progress and scope of his project, its influence in the national and international contexts;
- make an objective and critical assessment of the progress of his own work, identify the added value in relation to previous work;
- make an oral scientific communication, using the appropriate audiovisual means;
- write or contribute to the writing of a scientific publication by choosing the most appropriate journal for the nature of the subject, the results obtained and the actors involved, recognising the contribution of each;

- transfer, popularise and promote his research results while respecting intellectual property and any possible confidentiality, and by relying on the appropriate services;
- contribute to the dialogue between sciences (human, technical and experimental, social) and society;
- understand the process of commercial exploitation of research results in order to be able to identify opportunities to contribute to cooperation between university research, industrial research and the whole production sector;
- communicate with different audiences, including non-specialists;
- advise about, train and transmit, in a reasoned and accessible way, the methods and techniques specific to his field of specialisation.

Technical and methodological skills of doctors

Be able to:

- constantly enrich and complete, possibly in an autonomous way, his methodological and technical knowledge and skills;
- train and keep up to date on the major issues and future challenges, the effectiveness of methods and techniques, their limits, their transferability, etc.;
- transfer and adapt methods and techniques to a new experimental context;
- master all aspects of project management:
 - by optimising time, prioritising tasks in their conceptualisation and realisation,
 - by quickly adapting to a complex environment,
 - by constructing and formalising problems,
 - by breaking down complex problems into simpler questions,
 - by ordering the various stages of the project and planning their progress step by step,
 - by developing specialist knowledge in his field of study,
 - by rapidly proposing usual or innovative approaches to identify and solve complex or ill-posed problems,
 - by collecting data, developing methods, analysis techniques and new models,
 - by implementing the proposed solutions while respecting and managing the allocated budget,
 - by taking stock of the means available and suggesting their evolution,
 - by making a project evolve in order to adapt to changes in the context, notably in terms of deadlines,
 - by submitting a of the project;

- master his written and oral communication:
 - by adapting, reformulating and carefully structuring all communication to make it clear, concise and convincing according to the context,
 - by using appropriate tools for different media,
 - by mobilising one's power of conviction in a context of negotiation,
 - by interacting with people of different levels of qualification,
 - by mastering syntax, typographical, orthographical and grammatical correction in writing;
- intervene as a trainer, adapting to the audience:
 - by encouraging the involvement of the participants,
 - by providing answers to their questions,
 - by ensuring the follow-up of their project and the valorisation of their work;
- manage (collect, store, analyse, disseminate) information and data in an organised and efficient manner:
 - by setting up monitoring tools (scientific, technological, media, legal, etc.),
 - by devising strategies for gathering information or data according to the difficulty of accessing it,
 - by knowing the constraints in terms of ethics, security and reliability assessment related to data, information and their sources,
 - by mastering the computer tools for data management (databases, formats, etc.),
 - by identifying the computer and statistical tools relevant to the analysis of data (spreadsheets, tests, visualisation tools, etc.),
 - by structuring information to give it value;
- to draw all the benefits of an interdisciplinary competence, in particular by confronting his knowledge with that available in related research fields and by putting them in synergy.

General skills of doctors

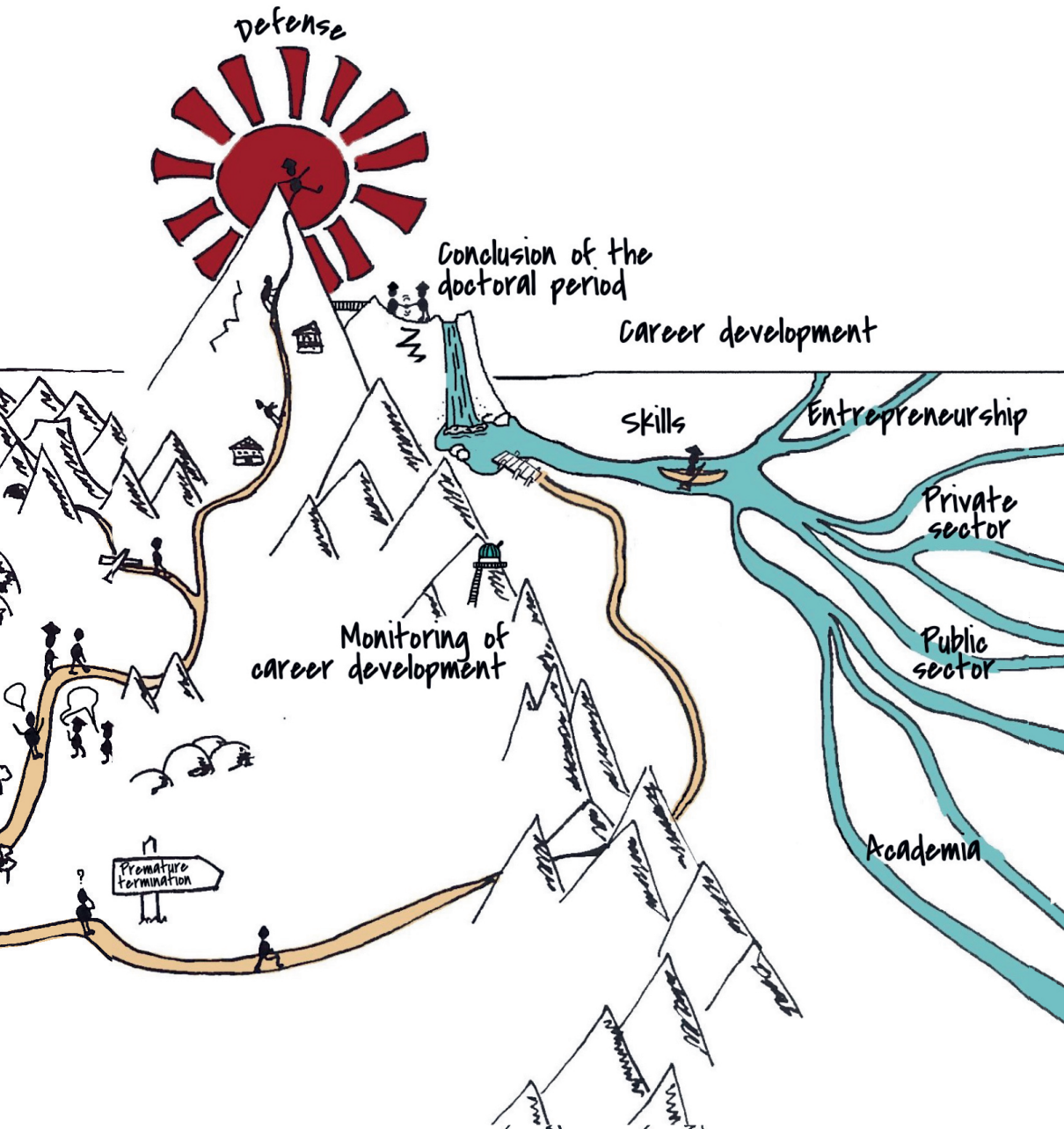
Be able to:

- mobilise a spirit of innovation on a daily basis:
 - by showing curiosity,
 - by using creativity and originality to develop innovative solutions,
 - by managing the risks linked to confrontation with the unknown,
 - by keeping a critical eye both on the approaches proposed to solve problems and on his own solutions,
 - by having the reflex to value his discoveries and achievements in a relevant way,
 - by going beyond the frontiers of his research field;

- work as a team player:
 - by collaborating with colleagues and partners with different statuses and missions, seeking to make the most of each person's contribution;
 - by showing respect, attention, trust, openness to diversity, encouragement and humility in the face of proposals from colleagues and partners,
 - by being persuasive in getting proposals accepted,
 - by putting himself at the service of a group for the success of a project,
 - by committing to represent his structure and adopt its codes,
 - by developing and maintaining a scientific and professional network;
- coordinate a team (trainees, possibly colleagues who participate in the work of the doctoral project) and steer a project (the doctorate as a whole, the writing of a publication, etc.);
- work independently
 - by mobilising his versatility,
 - by showing initiative,
 - by regularly reporting on his progress,
 - by submitting a full assessment of his achievements;
- adapt:
 - to his professional context,
 - to people, their working methods and their needs or demands, to an international and multicultural setting,
 - to the rhythms imposed by the professional environment,
 - to evolutions in working methods and tools;
- use a foreign language in his field, both orally and in writing;
- develop his career management skills by building his reputation through peer recognition;
- gain confidence in his working methods and his own ability to carry out a project successfully:
 - by identifying, isolating and solving problems, particularly by taking a step back,
 - by showing pragmatism in order to bring the project to fruition;
- develop personal qualities in the service of his professional commitment:
 - by showing patience, and therefore perseverance to successfully accomplish a project,
 - by dividing his time between professional and personal activities,
 - by relying on passion as a source of motivation at work.

Third part

After the doctorate



CHAPTER XXII

TRACKING THE CAREER DEVELOPMENT OF DOCTORATE HOLDERS

Monitoring the careers of doctorate holders is a mission of doctoral schools and higher education institutions: statistical monitoring of the future of doctorate holders is used in particular for the evaluation and funding of doctoral schools.



Moreover, this monitoring presents strategic challenges:

- to provide doctoral schools with a decision-making tool in order to propose training courses in line with the possible career paths after the doctorate;
- to attract people who wish to start a doctorate by presenting them with the diversity of the institution's doctoral profiles;
- to present to employers the types of profiles that could interest them;
- to give doctoral candidates possible career paths, by preparing them to look for the next job;
- to facilitate the creation of an alumni network which contributes to the attractiveness of the university; this network also encourages the transfer and promotion of research results, thanks to the emergence of collaborations between doctors from different sectors of activity, for example between private and public research, or the public sector outside research and the academic sector.

It is therefore important that relevant data on the future of doctorate holders be collected, analysed and disseminated, in compliance with the law on personal data⁽¹⁾.

From a logistical point of view, this monitoring of the future of doctorate holders requires the implementation of several tools (directory of doctoral candidates and doctors, survey forms, etc.) and an adapted methodology, allowing for consultation between the various actors of the doctorate (institutions, doctoral schools, research units, etc.) and the pooling of results. It also requires that

1. See the guide of the CPU, AMUE, CNIL: *Informatique et libertés Pour l'Enseignement supérieur et la Recherche* (2011)

the doctorate holders possess a feeling of belonging to their institution and doctoral school, in order to encourage them to respond to surveys on their professional future and to participate in actions organised by these structures.

Challenges for the career monitoring of doctorate holders

According to [article 3](#) of the order of 25 May 2016 relating to the doctorate, the doctoral schools “*organise, in conjunction with the services of their institutions, the monitoring of the professional careers of the doctors they trained*”. On the part of the institutions, this mission of annual monitoring of the professional future of graduates is currently carried out by the professional integration assistance offices defined by [article L611-5](#) of the Education Code.

Challenges for the evaluation of the doctoral school

The evaluation of doctoral schools by the HCERES provided for by [article 5](#) of the order relating to the doctorate requires the collection of various information about the professional future three years after obtaining the doctorate⁽²⁾. In addition, the Ministry of Research asks the doctoral schools each year for certain information on the future of the doctors who graduated the previous year as part of the SIREDO survey⁽³⁾.

These two surveys require information, in particular, on the number of doctors in each professional situation: job search, inactivity, resumption of studies, temporary or permanent employment in research or outside of it.

Challenges for the attractiveness of the doctorate

To increase their attractiveness, doctoral schools would do well to make the information on the future of their doctoral students public and accessible to anyone wishing to start a doctorate, on their website for example. Indeed, [article 3](#) of the order of 25 May 2016 relating to the doctorate prescribes that doctoral schools inform candidates about “*the nature, quality and rates of professional activity after obtaining the doctorate*”. This allows candidates to choose their doctoral project in line with their career perspective. For this, it is essential that doctoral schools provide regularly updated and sufficiently detailed information. For example, in addition to general indicators (on the employment rate, the number or percentage of

2. <https://web.archive.org/web/20180617201742/https://www.hceres.fr/MODALITE-S-D-EVALUATIONS/Campagne-d-evaluation-2016-2017/Modalites-d-evaluations-des-formations>

3. https://appliweb.dgri.education.fr/appli_web/enquete/docs/Formulaire-enquete_ed_2016.pdf

doctors employed in the public or private sector, in fixed-term or permanent employment, in research or outside of it, in France or internationally, etc.), they may include data on the positions held by the doctoral school's graduates, their remuneration, their sector of activity and even their employer.

Challenges for the continuing professional education of doctoral candidates

The continuing professional education offer proposed during the doctorate is adapted, in particular, to the professional projects of doctoral candidates, which may evolve during the course of the doctorate. Testimonials from the institution's doctorate holders with original trajectories, or statistics on the careers pursued by doctors, are ways of broadening the professional perspectives envisaged by the doctoral candidate for his post-doctoral period and they allow him to better position himself in the desired professional sector. By showing a wide range of possibilities, they will encourage the doctoral candidate to define more clearly one or more priority career projects complemented by alternative professional projects and to follow the appropriate training courses accordingly or to get involved in various activities beyond research (see chapter 13 *Activities beyond research during doctorate*).

This information also makes it possible to refine the doctoral policy of the doctoral school or the institution in order to develop new training courses or services adapted to these perspectives.

Challenges for the career development of doctoral candidates and doctors

Monitoring the future of doctors makes it possible to identify sectors of activity, institutions, companies and professions towards which people with a similar profile are moving. It can also help them to estimate their salary expectations during recruitment.

This follow-up also constitutes a necessary component for the creation of a network of alumni of the institution or doctoral school. A network of doctors can be sustained by networks of doctoral candidates, particularly associations of early-stage researchers, who aim to maintain the connections with doctors in order to help early-stage researchers think about their professional project. The establishment of a professional network of doctorate holders could benefit them in their job search, collaboration or conversion, either actively, by contacting the members of the network, or passively, by leaving information about their professional experience, skills and current employment (see chapter 23 *Careers of doctorate holders*).

Scientific challenges

In order to create, pursue or revive scientific collaborations, research units and academic institutions maintain connections with their former doctoral candidates, whether they have continued their careers in the academic research sector or in other professional sectors. In the case of doctors who have moved into the private sector or the public sector outside of research, these connections may lead to partnerships or collaborations⁽⁴⁾ between their current institution and their doctoral institution, for example in the transfer of technology, the design and implementation of new public policies or the supervision of doctoral candidates in the CIFRE framework.

The institution's doctors are also a privileged target for calls for patronage or the financing of the institutions' scientific foundations, either individually or on behalf of the company where they work. Their company can also support their former institution through the learning tax⁽⁵⁾.

Means and methodology

Keeping in touch

Connection with and between the institution's doctorate holders can be ensured as early as the year following the defence, during the graduation ceremony, which is the first opportunity to update the doctors' contact details, with a view to conducting surveys on their professional activity.

The existence of a directory, where doctoral candidates and doctors can update their contact details and employment status, is a way of making them active in the maintenance of the network. Former colleagues sometimes have up-to-date contact information: they can therefore be solicited by structures that seek to update the directory periodically.

A permanent electronic alias for each doctor would facilitate contact for this type of survey and long-term monitoring⁽⁶⁾.

Gathering information on career development

In order to allow a national monitoring of the evolution of doctoral policies, a centralisation of certain data collected at the local level concerning the future of doctors could be set up to complete the results of the surveys carried out by the Céreq – Centre for studies

4. Expenditure by companies for research work entrusted to a public research unit is retained for twice its amount for the research tax credit (*article 244 quater B II d* of the General Tax Code).

5. http://www.education.gouv.fr/cid2484/taxe-d-apprentissage.html#Qui_est_susceptible_de_beneficier_des_fonds_issus_de_la_taxe_d_apprentissage

6. <https://web.archive.org/web/20190830095105/http://www.enseignementsup-recherche.gouv.fr/cid115090/creation-d-un-anuaire-national-federe-pour-les-titulaires-d-un-doctorat.html>

and research on qualifications (Centre d'études et de recherches sur les qualifications)⁽⁷⁾ every three years on samples of the doctoral population. The directory of doctors announced by the ministry in charge of research⁽⁶⁾ was also designed as a tool to encourage the mutual collection of information. Doctoral schools and institutions of enrolment would be able to enter a certain amount of information into this database to identify their new doctorate holders.

From the end of the doctorate and during several years, these institutions monitor the cohorts of doctors, as they do for their other graduates. The updating of the database on the professional development of doctorate holders is made possible by the commitment of the doctoral candidate, at the time of signing the doctoral charter of his institution, to “respond to any request for information” (article 12 of the order of 25 May 2016 relating to the doctorate) relating to his professional career path after the doctorate.

The survey questionnaires and summary sheets for the analysis of the replies are an indispensable component of the monitoring of the future of doctorate holders. Within a locally defined methodology, possibly in consultation with other actors, these surveys are distributed using the updated contact details from the directories of doctors.

Dissemination of information

The collected and updated information make it possible to construct various useful indicators to characterise a network of doctors: employment rate, socio-professional categories, job stability, monthly evolution of the employment rate after the defence, type of job held, average salary.

Making public certain professional details of the doctors, subject to the agreement of the doctors concerned and in compliance with the rules of data processing and freedom, makes it possible to illustrate the general indicators and to contribute to the life of the network.

7. Surveys Generation of the Centre for studies and research on qualifications: <http://www.cereq.fr/themes/Acces-aux-donnees-Themes/Enquetes-d-insertion-Generation>

CHAPTER XXIII

CAREERS OF DOCTORATE HOLDERS

In addition to careers in the academic sector, doctorate holders use their skills in a wide variety of management jobs in the public and private sectors. This chapter begins by listing the job profiles for which the recruitment of doctors is relevant, by pointing out the measures intended to encourage their recruitment. Thereafter, tools are presented that can be used by doctors in order to be actors in their career development.



Specificity of the doctorate in a professional trajectory

The purpose of training through research is to train doctors who will go on to work in all sectors of activity, public or private, in research or outside research⁽¹⁾. The practice of research provides skills and reflexes that doctors can use throughout their career to respond effectively to complex situations. Trained to question and go beyond the limits of knowledge, doctors are border crossers: they have a strong capacity to adapt to change, they are autodidacts and are able to work in an international context. They are therefore particularly willing to experience geographical (beyond the borders of France or Europe), thematic or sectoral mobility. Their recruitment is also appropriate for positions that require them to question existing methodologies or practices, or to build new ones.

For these reasons, a doctor may be recruited outside of research, and even outside of his speciality. This might seem to the employer to be an additional investment or risk-taking. Nevertheless, the adaptation phase, which is necessary for any newly recruited person, will be used by the doctor to quickly acquire the specific skills for the job.

1. “The specific skills acquired during the course of this training enable them to carry out a professional activity after the doctorate in all fields of activity, in the public as well as the private sector”, [article 1](#) of the order of 25 May 2016 relating to the doctorate

Recognition of the doctorate as professional experience

The doctorate is recognised both as professional experience and as a diploma⁽²⁾. The young doctor is therefore a young graduate, of course, but above all a young professional with a first experience of research who can apply for many attractive positions both in terms of their missions and their remuneration.

The professional experience of the doctorate must be taken into account both at the time of hiring in the public and private sectors (see below the section entitled “*Incentives to recruit doctors*”) and at the time of calculating retirement rights, in particular in the case of professional experience abroad⁽³⁾.

The recognition of this experience must be the same regardless of social representations (gender, origin, etc.) and national borders, as many doctors are geographically mobile, especially in the first years after obtaining their doctorate.



IMPROPER PRACTICES

In the case of a doctorate not accompanied by a work contract for this research activity, it is not obvious that the employer will take these years of experience into account when hiring. In the public sector in particular, the statutes of various bodies have evolved to take into account the professional experience of the doctorate⁽⁴⁾. Nevertheless, inequalities in recognition remain depending on whether the doctoral candidate has benefited from a work contract or not.

Certain organisations such as the French National Association for Doctorate Holders (ANDès) and the French Confederation of Early-stage Researchers (CJC) are therefore asking for identical recognition regardless of the contractual status during the doctorate.

The added value of doctors in their jobs

The match between a job and the person who occupies it is paramount; its consideration is necessary, both by the employer and the employee, at the time of recruitment as well as at any stage of the career. A doctor, with his experience of research practice, brings added value to the job by mobilising his multiple skills (see chapter 21 *Skills developed during the doctorate*) for the benefit of the employer. It is possible that the doctor must himself make his employer or future employer

2. article L612-7 of the Education Code

3. See information on the transfer of retirement rights in European countries at the following address: https://www.cleiss.fr/particuliers/preparer_votre_retraite883.html, and the Resaver scheme <http://www.resaver.eu/>.

4. <https://andes.asso.fr/fonctions-publiques/>

aware of the value he adds to the position and negotiate its consideration (in particular in his remuneration). For this negotiation, he can, for example, make use of the possible provisions of the collective agreement, whether it concerns research functions or not, or even the Research Tax Credit (CIR).

Research activities in the public and private sectors

A doctor is able to carry out research in the public and private sectors. To do this, he mobilises a significant number of skills he developed during his doctorate. The value he adds to his position comes in particular from his ability to propose innovative solutions to complex problems, by clearing new areas of knowledge and opening up new areas for development. This type of position has executive status.

Activities beyond research related to research

In the context of a job linked to research (administrative or technical positions in support of research, dissemination of knowledge, technical-commercial positions, innovation and transfer of research results, etc.), the doctor, who has experienced the research environment, is able to communicate with researchers and other research actors. In all these situations, the employer benefits from involving the doctor in the definition and evolution of his own job description in order to give it new dimensions in line with his experience and his capacity to innovate.

Other activities for which doctors bring a strong added value

Some positions without a research mission, in particular teaching positions, include nevertheless activities that require a combination of skills acquired during the doctorate, such as: creating a state of the art, technological monitoring, management of complex situations, communication with various audiences, management of partnerships, etc.

As not all recruiters are necessarily aware of the interest of completing their team with doctors, or even of integrating a research activity into positions that do not originally provide for it, the doctors will have to illustrate how their skills constitute a strong added value for the targeted positions.

Creation of an activity by doctors

The doctor's capacity for innovation gives him the ability to create new activities. This creation can follow, for example, from their research and result in the creation of an innovative start-up. It can also allow him to critically analyse the position he occupies and lead to the creation of new functions for himself or for others.

Thus, entrepreneurship and intrapreneurship are paths of interest for doctors at all stages of their career.

For the viability, development and durability of the activity he created, the doctor who is at its origin remains in the best position to convince partners (public or private, employers, suppliers or clients, funders, etc.) of the value of his project.

Incentives for recruitment of doctors

The presence of doctors in many sectors of activity naturally allows the value of doctors to be recognised by society as a whole. In order to encourage this integration in the public and private sectors, the State is putting in place financial and regulatory incentives.

The needs in terms of innovation in public policies, or expertise on specific subjects, make the public service a natural employer for doctors, including outside the sectors of research and teaching. The State has therefore generalised, since 2013⁽⁵⁾, the implementation of recruitment channels in the public service that specifically take into account the skills of doctors and enhance the relevance of this recruitment. This approach also meets the need for diversifying profiles and opening up the public service to European mobility. Several public service bodies have thus seen their recruitment procedures evolve through decrees setting up a special external competition reserved for doctors or specific tests in the context of adapted external competitions⁽⁶⁾. At the time of recruitment, the professional experience of the doctorate is taken into account in accordance with the rules laid down in these various decrees for determining remuneration. As regards doctorate holders who were already public servants, the PPCR protocol (Protocol for Professional development, Careers and Remuneration) implemented since September 2015⁽⁷⁾ emphasises the desire to better value the skills that the public service needs. However, obtaining a doctorate is not explicitly taken into account to provide automatic career progression.

Furthermore, the doctorate allows one to benefit from gateways to training courses that give access to professions in the public service (ENA⁽⁸⁾) or regulated professions (lawyer⁽⁹⁾).

5. articles 78 and 79 of the law of 22 July 2013 relating to higher education and research and [Avis du 4 septembre 2014 du Conseil d'État](#)

6. In the absence of publication of the report provided for in Article 79 of the law of 22 July 2013, see the list of bodies concerned by these measures on the page http://andes.asso.free.fr/F_fonction_publicque.php

7. https://www.fonction-publique.gouv.fr/files/files/statut_et_remunerations/PPCR/accord_PPCR.pdf, see in particular section 2.3

8. article 78 of the law of 22 July 2013 relating to higher education and research https://www.legifrance.gouv.fr/eli/loi/2013/7/22/2013-660/jo/article_78

9. article 12-1 of the law of 31 December 1971 reforming certain judicial and legal professions, articles 98 and 262 of the decree of 27 November 1991 organising the profession of lawyer.

For the private sector, the State has set up a system to encourage the recruitment of doctors for research activities. It is part of the research tax credit⁽¹⁰⁾, the principle of which is to grant a tax reduction to companies and other taxable structures that declare research and development expenses, thus enabling them to finance this activity. The “provision for young doctors”, created in 1999 (article 8 of the [law of 12 July 1999](#) on innovation and research and the fourth paragraph of c of II of the [article 244 quater B](#) of the French General Tax Code), encourages the hiring of doctors at the beginning of their careers in R&D functions. Indeed, during the first two years following the hiring of a young doctor on a permanent contract, provided that the number of employed research staff in the company is not less than that of the previous year, the tax reduction is calculated by taking into account:

- for personnel expenses, double the amount of the salary of the person recruited;
- for flat-rate operating expenses, also 200% of staff expenses⁽¹¹⁾.

Tools to advance your career

Different visibility strategies can be adopted to start or develop a professional career.

Digital identity and visibility

Professional social networks (LinkedIn, Viadeo, ResearchGate, etc.) are tools increasingly used by recruiters both to find candidates and to share news in their field. It is therefore essential to control one's digital identity and to share relevant information on the networks related to one's activity. It is recommended not to wait until you are looking for a job to use these tools, which can be used both to provide visibility in your own professional community and to encourage solicitations with a view to moving to other structures or sectors of activity. In order to highlight his experience, a doctor may, in accordance with the [article L412-1](#) of the French Research Code, display his title of doctor (Dr or PhD) on their profile or in his signature in any professional circumstance that justifies it, in particular in an international context. Furthermore, the e-mail address used by the doctor for his professional communication may show his title, in particular if a unified address is proposed for all doctors⁽¹²⁾ or if a permanent address is proposed by the institution which awarded the diploma. Keeping an up-to-date digital record in a directory of doctors, such as the directory of members of the ANDès, also contributes to the visibility and membership of the network of doctors.

10. <https://www.service-public.fr/professionnels-entreprises/vosdroits/F23533>

11. Guide to the 2017 tax credit: http://cache.media.enseignementsup-recherche.gouv.fr/file/guide_CIR/39/4/CIR_guide_735394.pdf

12. https://cache.media.enseignementsup-recherche.gouv.fr/file/Actus/01/1/Rapport_de_Jerome_Kalfon_-_30_03_745011.pdf

Professional network: construction and maintenance

Doctors, used to developing and mobilising a scientific network during their doctorate, can mobilise this network again throughout their career. A network is above all a circle of acquaintances sharing common interests, such as the French Community of Doctorate Holders (CFD)⁽¹³⁾, which brings together holders of a doctorate with the aim of improving the visibility of the doctorate in society.

The network is based on trust: one person can be introduced to another through a third person who has established a relationship of trust with the first two. It is important to note that the network approach makes it possible to put two people in contact or to draw attention to a person's profile, without constituting a pass for the intended selection stages, for example, in a recruitment process. It differs in this respect from the "pulling strings" approach, which allows access to positions without necessarily having the required skills. Thus, it is legitimate to call upon one's network, both to target one's candidacy for a position and to inform colleagues or one's employer of the profile of a doctoral candidate or a doctor who would be relevant for a future recruitment.

It takes time to build a professional network, therefore it is essential to create, develop and maintain it from the beginning of one's professional experience, or even from the beginning of one's studies. At the beginning, it is often made up of a first circle of close acquaintances (friends and members of one's own family), former students and colleagues. The doctoral supervisor may be asked to put the doctoral candidate in touch with his own professional network, particularly with a view to pursuing a research-related career.

Development of the professional network

Gradually, the network is extended to include research collaborators and people the doctoral candidate meets at events, conferences, meetings, etc. Participation in congresses is a way to meet or find people with varied and complementary profiles. Scientific networks are a good starting point for doctoral candidates: doctoral schools, research groups, learned societies, chambers of commerce and industry. Contacting people from other research fields and other sectors helps not only to broaden one's professional network, but also to develop one's open-mindedness and to put one's early career or more advanced career into perspective by comparing it to other experiences. For a person to become part of this professional network, a real exchange is necessary, through a physical or virtual meeting, or at least a telephone or e-mail exchange.

The role of the institution and the doctoral school

In order to develop a sense of belonging among doctors to the institution awarding their diploma and to the doctoral school, these two structures set up visible actions that reinforce their link with their doctoral candidates on the one hand, and the links between doctoral candidates and doctors on the other.

Various actions can be organised for this purpose: improving communication between doctoral candidates by organising scientific meetings, welcome days or other formal or informal events, supporting the projects of local associations of doctoral candidates and doctors, encouraging doctoral candidates to get involved in the doctoral life of their institution or laboratory, supporting doctoral candidates in their job search, testimonies of doctoral candidates with diverse professional backgrounds, etc. Institutions and doctoral schools can also think about setting up various services for their doctors, such as continuing professional education or a portal that allows them to offer internships and job offers.

The listing of existing networks on the doctoral school or institution's website also enables doctoral candidates and doctors to find out about them and join those that interest them. The graduation ceremony, which the institution can organise annually, is a privileged opportunity for doctors to meet up or make new professional contacts, after distancing themselves from their doctorate and reflecting on their future career. In the long term, doctoral schools can maintain a sense of belonging by occasionally contacting doctors in order to follow their professional development (see chapter 22 *Tracking the career development of doctorate holders*).

Network maintenance

The development and maintenance of the network is based on reciprocal exchanges. The network is maintained and nurtured in different ways. For example, one can have regular contact with its members or regularly exchange information on current affairs of common interest (events, articles, job offers, etc.). It is through the network that everyone keeps abreast of local dynamics that can be a source of inspiration.

The mutual maintenance of links between the doctor and his doctoral research community is beneficial for both parties. Maintaining links with the research unit and the doctoral supervisor allows, for example, to establish collaborations, to exchange job offers, or for the doctor to teach in higher education as an external contributor. The actions set up by the doctoral institution or the doctoral school allow for the maintenance of the network (see chapter 22 *Tracking the career development of doctorate holders*). Finally, keeping in touch with researchers from other institutions met during the doctorate can be useful to remain informed of new developments in one's field of research, or to maintain an international network.

Evolution of the professional project and professional mobility

Career development and professional mobility present specific challenges for doctors. Indeed, a large proportion of them initially go into research careers in non-permanent positions, before opting for a change of function or sector of activity⁽¹⁴⁾. Furthermore, doctors attach great importance to their professional fulfilment in the evaluation of their careers⁽¹⁵⁾. Many doctorate holders also experience geographical mobility, which broadens the opportunities for professional development. This professional mobility is an issue for employers of doctors who, wishing to keep them in the long term, offer them a stimulating work environment.

Useful devices for professional reorientation

Various mechanisms facilitate professional reorientation, particularly in the case of an orientation towards careers other than research at the end of the doctorate. An assessment of skills (see chapter 19 *Conclusion of the doctoral period*) may be useful in order to take stock of the careers available or the additional skills to be developed.

Available for a period of 6 to 24 months to doctors who are nationals of a European Economic Area country, provided that they are not yet 29 years old at the start of their mission abroad, plans of action such as the VIE (international volunteering in a company)⁽¹⁶⁾ and the VIA (international volunteering in administration)⁽¹⁷⁾ make it possible to take part “in France’s global action in the fields of culture and environment, technical, scientific and economic development and humanitarian action”, according to the [article L122-4](#) of the National Service Code, in a private company or a public structure ([article L122-3](#) of the National Service Code). These voluntary services can be used as a springboard to discover a sector of activity or new functions with a view to becoming stable thereafter, on a permanent contract or by succeeding in a public service entrance examination.

As far as the public service is concerned, applying for fixed-term contracts also allows one to discover an administration and how it works before passing an entrance examination to be recruited to permanent positions. The website of the Interministerial Public

14. M. Fournier, B. Durette, A. Bugnicourt (2015) *La construction de la carrière des docteurs se dirigeant dans le secteur privé: de l’entrée en doctorat jusqu’aux docteurs expérimentés*, L. Auriol, T. Misu, F. Galindo-Rueda (2016) *Doctorate Holders’ Labor Market and Mobility: The Academic Career as the First Choice*, J. Calmand (2017) *Les cinq premières années de vie active des docteurs diplômés en 2010*, Cérq Études n°9

15. J.F. Canal-Domínguez, A. Wall (2014) *Factors determining the career success of doctorate holders: evidence from the Spanish case*, *Studies in Higher Education* 39(10): 1750-1773

16. <https://www.service-public.fr/particuliers/vosdroits/F10040>

17. <https://www.service-public.fr/particuliers/vosdroits/F13279>

Employment Exchange (BIEP - Bourse Interministérielle de l'Emploi Public), offers various positions open to contractual workers in the State, local and hospital public services.

Doctors who wish to leave the research sector may also consider training or obtaining other diplomas. This may be necessary in the case of a specific professional project towards a profession that requires such training by regulation. Apart from this case, the skills of doctors may be sufficient for obtaining certain positions, without having to follow specialised training of the master or university diploma type. In fact, thanks to their capacity for self-learning and adaptation, doctors can independently acquire technical skills that can be used in the context of a job search. The practice of the network interview, which consists of talking to a person who occupies similar functions to those targeted in order to find out more about his job and the issues involved, provides the best way of determining the potential skills that need to be acquired, as well as the structures and people to know in order to optimally position oneself for future applications. In the case where a specific training course seems relevant, it is important to take advantage of it in order to enrich one's network, both with the other people who are following the training course and with the instructors.

A mobility accompanied by various actors

The human resources departments of the organisations employing doctors provide technical information on professional mobility. They provide information, for example, on the different procedures existing in the public service (secondment, etc.), or the possibilities of transition to other departments, in medium-sized companies or large companies. They can also advise on finding training to open up new career prospects or formalise the evolution of one's professional project.

Organisations such as *Pôle Emploi* or APEC offer the doctorate holder practical support to develop his career. The network interview is also a good source of information to feed his reflection on his career progression.

BIBLIOGRAPHY

European and international charters

The European Charter for Researchers

- The European Charter for Researchers

WMA Declaration of Helsinki

- WMA Declaration of Helsinki

Singapore Statement on Research Integrity

- Singapore Statement on Research Integrity

Legal codes

Code of Education

- Article L121-3 • Article L123-5 • Article L611-5 • Article L612-7
- Article L613-5 • Article L712-3 • Article L712-6-2 • Article L713-1
- Articles L718-11 and L718-12 • Article L719-2 • Article L811-1
- Article L952-6-1 • Article D123-13 • Article D711-2 • Article D719-4
- Article D719-9 • Article D811-8

Code of Entry and Residence of Foreigners and the Right of Asylum (CESEDA)

- Article L121-1 • Article L311-1 • Article L313-7 • Article L313-20
- Article L313-21 • Article R311-3 • Article R313-42 • Article R313-53
- Article R313-56 • Article R313-77 • Article R313-78 • Article R313-80

Intellectual Property Code

- Article L113-9 • Article L121-1 • Article L121-2 • Article L121-4
- Article L122-2 • Article L122-3 • Article L122-5 • Article L335-2
- Article L335-3 • Article L335-6 • Article L335-7 • Article L611-1
- Article L611-10 • Article L615-22

Research Code

- Article L321-3 • Article L412-1 • Article L412-2

Code of Relationship between the Public and the Administration (CRPA)

- Article L232-4 • Article L300-2 • Article L323-2 • Article D323-2-1
- Article D323-2-2

National Service Code

- Article L122-3 • Article L122-4

Labour Code

- Articles L1221-1 and following • Articles L1221-19 to L1221-24
- Article L1221-25 • Article L1221-26 • Article L1237-1 • Article L1237-3 • Article L1242-10 • Article L1243-1 • Article L1243-4
- Article L1243-8 • Article L1243-10 • Article L1411-1 • Articles L3121-20 to 27 • Article L6311-1 • Article L6321-6 to 12 • Article D1242-3 • Article R4624-10 • Article R4624-18 • Article R4626-26
- Article R5221-3 • Article R5221-7 • Article R5221-26 • Article R5221-48

General Tax Code

- Article 244 quater B • Article 244 quater B II d

Laws

Law of 7 October 2016 for a Digital Republic

- Article 30

Law of 22 July 2013 on higher education and research

- Article 78 • Article 79

Law of 12 July 1999 on innovation and research

- Loi du 12 juillet 1999

Law of 26 January 1984 on the statutory provisions relating to the territorial civil service

- Article 108-2

Law of 11 January 1984 on statutory provisions regarding state civil service

- Loi du 11 janvier 1984

Law of 31 December 1971 on the reform of certain judicial and legal professions

- Article 1-2 • Article 12-1

Decrees

Decree of 18 May 2018 on the temporary suspension of studies in public institutions offering initial higher education courses

- Decree of 18 May 2018

Decree of 27 January 2017 on the exercise of private activities by public servants and certain contractual agents under private law who have ceased their duties, on the accumulation of activities and on the ethics commission of the public service

- Decree of 27 January 2017

Decree of 15 February 2011 on technical committees in State administrations and public establishments

- Decree of 15 February 2011

Decree of 23 April 2009 on contractual doctoral candidates in public higher education or research institutions

- Decree of 23 April 2009 • Article 3 • Article 5 • Article 5-1 • Article 5-2 • Article 5-3 • Article 6 • Article 7 • Article 8 • Article 8-1 • Article 10 • Article 13 • Article 15

Decree of 2 October 1996 relating to the profit-sharing of certain civil servants and employees of the State and its public establishments who have participated directly in the creation of software, in the creation or discovery of a new plant variety or in valued work

- Decree of 2 October 1996

Decree of 27 November 1991 organising the legal profession

- Article 98 • Article 262

Decree of 15 February 1988 taken for the application of article 136 of the law of 26 January 1984 modified concerning statutory provisions relating to the territorial public service and relating to contractual agents of the territorial public service

- Article 2

Decree of 29 October 1987 on the conditions of recruitment and employment of temporary workers in higher education

- Decree of 29 October 1987 • Article 1 • Article 5

Decree of 17 January 1986 on the general provisions applicable to contractual agents of the State

- Decree of 17 January 1986 • Titre XI • Titre XII • Article 1-2 • Article 3 • Article 14 • Article 15 • Article 17 • Article 43-2 • Article 45-1 • Article 46 • Article 47 • Article 47-1 • Article 48 • Article 49

Decree of 28 May 1982 on occupational health and safety and medical prevention in the civil service

- Decree of 28 May 1982 • Articles 5 and 6

Orders

Order of 27 July 2018 establishing for higher education institutions the list of professional segments to which the doctoral diploma is attached

- Order of 27 July 2018 2018

Order of 28 October 2016 on the documents to be produced for the application for the issuance of a temporary or multi-annual residence permit bearing the words "entrepreneur/self-employed person" or a multi-annual residence permit bearing the words "talent passport"

- List of supporting documents

Order of 29 August 2016 fixing the amount of the remuneration of contractual doctoral candidates

- [Order of 29 August 2016](#) • [Article 2](#)

Order of 25 May 2016 establishing the national framework for education and the procedures leading to the award of the national doctoral diploma

- [Order of 25 May 2016](#) • [Article 1](#) • [Article 3](#) • [Article 4](#) • [Article 5](#) • [Article 9](#) • [Article 11](#) • [Article 12](#) • [Article 13](#) • [Article 14](#) • [Article 15](#) • [Article 16](#) • [Article 17](#) • [Article 18](#) • [Article 19](#) • [Article 20](#) • [Article 21](#) • [Article 23](#) • [Article 24](#) • [Article 25](#)

Order of 24 March 2015 setting out the procedures for the election to the National Council for Higher Education and Research of representatives of the staff of public scientific, cultural and professional establishments and representatives of the staff of public research establishments

- [Order of 24 March 2015](#)

Order of 1 August 2011 on the licence

- [Order of 1 August 2011](#)

Order of 23 April 2009 fixing the amount of the remuneration of contractual doctoral candidates

- [Order of 23 April 2009](#)

Order of 24 December 2007 taken in application of Article R. 313-13 of the Code of Entry and Residence of Foreigners and the Right of Asylum

- [Order of 24 December 2007](#) • [Annexe II](#)

Order of 3 September 1998 on the Thesis Charter

- [Model doctoral charter](#)

Order of 6 November 1989 fixing the rates of remuneration for overtime work

- [Article 1](#) • [Article 3](#)

Circular

Circular of 29 November 2016

- [Circular of 29 November 2016](#)

Circular of 6 May 2016 NOR INTV1631686J

- [Circular of 6 May 2016](#)

Circular of 25 November 2015

- [Circular of 25 November 2015](#)

Circular of 19 March 2015

- [Circular of 19 March 2015](#)

Circular of 10 March 2015

- [Circular of 10 March 2015](#)

Circular of 30 July 2013

- [Circular of 30 July 2013](#)

Circular of 30 April 2012

- [Circular of 30 April 2012](#)

Circular of 3 January 2012 on unemployment compensation for public sector employees

- [Circular of 3 January 2012](#)

Circular of 8 August 2011 MFPPF1122325C

- [Circular of 8 August 2011](#)

Circular of 15 June 2010

- [Circular of 15 June 2010](#)

Circular of 24 June 2009

- [Circular of 24 June 2009](#)

Circular of 20 October 2006

- [Circular of 20 October 2006](#)

Circular of 29 August 1992 DRT 92-14

- [Circular of 29 August 1992](#)

Case law

Decision of the Court of Cassation, Civil, Social Division, 6 October 2015

- [Decision n° 14-19.126](#)

Decision of the Court of Cassation, Civil, Social Division, 1 October 2014

- [Decision n° 13-17.745](#)

Opinion of the Council of State of 4 September 2014

- [Opinion of 4 September 2014](#)

Decision of the Versailles Court of Appeal, 31 August 2011

- [Decision n°10/01962](#)

Decision of the Court of Cassation, Criminal Division, 15 June 2010

- [Decision n°09-84034](#)

Decision of the Court of Cassation, Social Division, 21 March 1996

- [Decision n° 93-40.192](#)

Research papers

Paper published by Springer

- [Doctorate Holders' Labor Market and Mobility: The Academic Career as the First Choice](#)

Paper published by Taylor & Francis

- [Factors determining the career success of doctorate holders: evidence from the Spanish case](#)

Research report published on HAL

- [La construction de la carrière des docteurs se dirigeant dans le secteur privé : de l'entrée en doctorat jusqu'aux docteurs expérimentés](#)

Entities related to the doctorate

Website of the Adoc Talent Management

- [Skills and employability of doctorate holders](#) • [Skills and employability of doctorate holders – investigation report](#)

Website of the ABES

- [ABES self-training platform, more detailed description of doctoral theses \(thesis on work, jury and partners\)](#)

Website of the ABG

- [Doctoral job offers](#)

Website of the ANDès

- [Registration of competences shared by doctorate holders in the *Répertoire National des Certifications Professionnelles*](#) • [ANDès and the recognition of the doctorate in the public service, outside the academic sector](#)

Website of the CJC

- [About the doctoral contract](#) • [Doctoral Charter - CJC proposal](#)
- [Evaluation of thesis charters: case law on thesis charters](#) • [For the uniqueness of the doctorate: stop the labels!](#) • [For a specific college](#)

Website of *La Communauté française des docteurs*

- [The French Association of Doctorate Holders](#)

Website of *La Toile des doctorants*

- [La toile des doctorants](#)

Entities related to higher education and research

Website [archives-ouvertes.fr](#) HAL

- [Open archive HAL](#)

Website [archives-ouvertes.fr](#) Thèses en ligne TEL

- [Theses online TEL](#)

Website of Euraxess France

- [Euraxess France](#)

Website of Open access France

- [FAQ on the Digital Republic Law](#)

Website of Campus France

- [Research in France](#)

Website of the AERES

- [Synthèse des rapports d'évaluation des écoles doctorales de la vague D](#)

Website of the ANRT

- [Home](#) • [CIFRE Brochure](#) • [CIFRE grant agreement](#) • [Drafting a collaboration contract](#)

Website of the INRA

- [Continuing professional education](#)

Website of Vitae

- [Researcher Development Framework](#)

Website of the CNRS

- [Decision of 28 October 1992](#) • [Fulfill your potential](#)

Website of the HCERES

- [Home](#) • [Training evaluation procedures, 2016-2017 evaluation campaign](#) • [French Office for Scientific Integrity](#)

Website of the Ministry of Research and Higher Education

- [Hosting a foreign scientist](#) • [Directory of doctoral programmes and research units](#) • [Official Bulletin of 27 April 2017](#) • [Creation of a federated national directory and lifetime e-mail address for doctorate holders](#) - [Report by Jérôme Kalfon](#) • [Creation of a federated national directory for doctorate holders](#) • [Guide to the research tax credit, 2018](#) • [Higher education & research in France, facts and figures, The doctorate and the doctorate holders, Evolution of the number of doctoral candidates: table 38.01](#) • [Higher education & research in France, facts and figures, Human resources for research and development, R&D personnel \(in FTE\): table 35.01](#) • [Internal analysis model for obtaining the label HRS4R](#)

Website theses.fr

- [Home](#)

Entities related to innovation

Website of *Agence pour la protection des programmes*

- [Home](#)

Website of the INPI

- [Home](#) • [The inventor is an employee](#)

Website of the European Patent Office

- [Home](#)

Entities serving the general interest

Website ameli.fr

- Change of job or loss of job

Website of Horizon 2020

- European Commission recommendations on open access to research publications and data funded by the Horizon 2020 programme

Website of the UNEDIC

- Unemployment insurance, indispensable for 60 years • General Regulation on unemployment insurance

Website of the CNIL

- Guide "Informatique et Libertés" for higher education and research, 2011 edition

Website of the European Commission

- ECTS User Guide 2015 • Guidelines on Data Management in Horizon 2020 • Human Resources Strategy for Researchers (HRS4R) • Marie Skłodowska-Curie Actions, Guide for applicants • Search for EURAXESS Centres • The European Higher Education Area in 2018, Bologna Process Implementation Report, Figure 3.12: Duration of full-time third-cycle programmes as defined in top-level steering documents, 2016/17

Website of the Préfecture de la Seine-Saint-Denis

- List of supporting documents for the issuance of a residence permit, multi-annual residence permit "talent passport - researcher"

Website of the Employment Office

- Registering with the Employment Office

Website of the Céreq

- Insertion surveys (Generation) • The first five years of working life of doctors who obtained their diplomas in 2010

Website of the Cleiss

- Your pension after working in France and in different EU, EEA or Swiss states

Website of the Consortium Resaver

- Home

Website of the Ministry of National Education

- Decision of 18 May 2004 of the Administrative Court of Versailles
- Decision of 3 June 2008 • Steering the education system, Learning tax (metropolitan France, Alsace-Moselle, DOM)

Website of the Ministry of Culture

- [Factsheets on copyright and related rights](#)

Website of the Ministry of Civil Service

- [Agreement on the future of the civil service: The modernisation of professional paths, careers and remuneration](#)
- [Safire: Information system for the animation of regional interministerial training](#)

Website of the Ministry of Labour

- [Skills assessment](#)

Website inspection-du-travail.com

- [Early termination of a fixed-term contract](#)

Website mon-cep.org

- [My career development advice](#)

Website service-public.fr

- [Back-to-work allowance \(ARE\) for a former public servant](#)
- [Skills assessment for a private sector employee](#)
- [Skills assessment in the State Civil Service \(FPE\)](#)
- [Skills assessment in the hospital civil service \(FPH\)](#)
- [Skills assessment in the territorial civil service \(FPT\)](#)
- [Personal Training Account \(PTA\)](#)
- [Personal Training Account \(PTA\) in the State Civil Service \(FPE\)](#)
- [Contract for the transfer of copyright](#)
- [Research tax credit \(CIR\)](#)
- [Resignation of an employee](#)
- [Simple, serious or gross misconduct: what differences for the dismissed employee?](#)
- [End of a fixed-term contract \(CDD\)](#)
- [Compensation for paid holidays](#)
- [Indemnity in lieu of notice](#)
- [Severance pay](#)
- [Family reunification](#)
- [Breach of contract in the private sector \(resignation, contractual termination, etc.\)](#)
- [Indexed salary in the civil service](#)
- [International Volunteering in Administration \(VIA\)](#)
- [International Corporate Volunteering \(VIE\)](#)

INDEX

❧ A ❧

ABES 138
 ABG 47, 145
 absence of project integration 23, 100
 academic title 15, 18, 20, 21, 137, 187
 accident at work 38, 61, 101
 accumulation 69, 89, 90, 94, 147
 activity
 beyond research 16, 36, 57, 69, 86, 89, 90, 94, 112, 136, 147, 165, 167, 179, 185
 professional 18, 23, 81, 100, 105, 107, 147, 151, 165, 173, 178, 180, 183
 volunteering 89, 95, 147
 administrative procedures 55, 59, 70, 72, 133, 147
 AERES *see* HCERES
 analysis 15, 27, 50, 72, 73, 93, 120, 142, 158, 168, 170–172, 181, 185
 ANDès 128, 165, 184, 187
 ANRT 28, 37, 102, 112, 113, 152, 162
 APEC 47, 191
 archive
 open 117, 138
 archives 99, 114
 article 16, 68, 79, 117–119, 123, 132, 135, 142, 189
 assessment 84, 131, 141–144, 146–148, 150, 151, 162, 170
 of skills 82, 86, 141, 144–147, 167, 168, 190
 Association Bernard Grégory *see* ABG
 Association Nationale des Docteurs *see* ANDès
 Association Nationale Recherche Technologie *see* ANRT
 Association Pour l'Emploi des Cadres *see* APEC
 associations of early-stage researchers 17, 20, 70, 95, 96, 110–112, 126, 158, 179, 189
 attractiveness 88, 177, 178
 autonomy 22, 75, 78, 83, 98, 103, 125, 136, 166, 170, 173, 191

availability 83, 106

❧ B ❧

bankruptcy 80, 107, 113
 benefits 21
 bibliography 29, 68, 72, 73, 87, 122, 132, 133, 142
 breach of contract 149, 151–153, 155–161, 163

❧ C ❧

call for projects 33, 34
 Campus France 46
 candidate-project mismatch 42
 CDD 28, 37, 58, 60, 102, 105, 128, 143, 158–160
 CDI 28, 37, 58, 102, 105, 158
 change
 of doctoral supervisor 111
 of subject 111
 CHSCT 152
 CIFRE 28, 35, 37, 47, 58, 60, 80, 95, 98, 102, 104, 105, 112, 152, 154–156, 162, 180
 CIR 180, 185, 187
 citation 120, 133, 135
 CJC 56, 90, 96, 128, 165, 184
 CNESER 116
 co-author 117, 133
 collaborators 25, 50, 72, 117, 136, 151, 188
 collective agreements 158, 185
 Comité d'hygiène, de sécurité et des conditions de travail *see* CHSCT
 communication of results 15, 16, 116, 123, 132, 139, 166, 171
 company committee 66
 competitiveness 16
 complex task 27
 composition of the jury 131, 134, 135
 Confédération des Jeunes Chercheurs *see* CJC
 conference 16, 25, 29, 33, 40, 69, 72, 74, 76, 83, 121, 135, 142, 146, 166, 188
 confidentiality 46, 56, 69, 80, 116, 118, 122, 123, 137, 138, 171

confidentiality agreement 137, 138
 conflict 19, 20, 36, 66, 74, 80–82, 96,
 107–114, 125, 129, 152–155
 of interest 81, 94, 110, 134
 conflict resolution committee 109,
 129
 Conseil national de l'enseignement
 supérieur et de la
 recherche *see* CNESER
 contract for the transfer of rights 118
 contribution 19
 convention industrielle de formation
 par la recherche *see* CIFRE
 conversion 179
 copyright 119
cotutelle 29–31, 45, 56, 61, 80, 132
 counterfeiting 116, 120–124
 creation of a company 61, 83, 142
 crédit d'impôt recherche *see* CIR
 criticism of results 23
 curriculum vitae 52, 141, 144, 169

D

data management plan 118
 data repository 118
 defence 15, 18, 66, 74, 75, 98, 103,
 104, 108, 111, 112, 121, 123,
 131, 133–142, 180, 181
 authorisation 66, 108, 112, 135
 defence report 137
 degree 40, 58
 deliverables 141–143
 deontology 115, 116
 desk 67
 development of skills 71, 76, 85, 89,
 166
 difficulties 33, 72, 76–78, 98, 99, 101,
 104, 105, 108, 109
 diffusion of the manuscript 135
 digital identity 141, 187
 diploma 18, 52, 61, 125, 127, 131,
 134, 136, 140, 149, 162, 165,
 168, 169, 184, 187, 189, 191
 directory
 of doctoral candidates 177, 180
 of doctors 177, 180, 181, 187
 disability 101, 102
 disciplinary sanction 107, 109, 113,
 153, 154, 161
 discrimination 40, 51, 53, 56, 81, 107
 discussion 55, 74, 75, 110, 132, 137,
 152
 dismissal 36, 109, 110, 112, 149,
 151–161
 dismissal interview 152, 157, 158
 dissemination of results 69, 142

dissemination of scientific culture
 84, 85, 96, 125, 128, 168
 dissemination of scientific
 information 36, 90, 94, 147
 dissemination of the manuscript 139
 diversity 23, 50, 89, 126, 128, 173,
 177, 183
 doctoral charter 18, 19, 55, 57, 66,
 75, 82, 110, 112, 181
 doctoral contract 35, 36, 39, 57, 61,
 81, 89–91, 94, 95, 98,
 101–104, 112, 143, 151, 152,
 156, 157, 160, 161
 doctoral hiring 40–42
 doctoral job offer 26, 31, 42, 43,
 45–47, 49, 51, 52
 doctoral mention 137, 140
 doctoral policy 20, 39, 41, 179
 doctoral project launch meeting 71,
 74
 doctoral project selection 39, 41, 42,
 45
 doctoral recruitment 19, 23, 31, 33,
 34, 39, 43, 49–51, 53–56,
 71, 72, 100, 114, 125, 126,
 140, 150
 doctoral re-enrolment 149
 doctoral school council 40, 56, 58,
 81, 82, 111
 doctoral supervisor 56
 doctoral training agreement 55–57,
 67, 68, 75–77, 81, 86, 103,
 105, 132
 doctoral withdrawal 105, 149, 150,
 153, 154, 166
 doctorate with a label 88, 168
 duration of the contract 35, 57, 61,
 81, 125, 150, 156
 duration of the doctorate 25, 52, 82,
 97–104, 106, 107, 111, 166

E

École Nationale d'Administration *see*
 ENA
 economic rights 115, 119, 123
 ECTS 85
 education 57
 e-mail address 29, 68, 143, 187
 ENA 186
 end of the doctorate 168
 English 87
 enrolment 52, 54, 55, 57–59, 61, 65,
 66, 81, 82, 108, 152, 163
 entrepreneurship 186
 EPIC 37, 129
 EPSCP 37, 129

EPST 37, 113, 129
 ethics 74, 76, 85, 87, 115, 116, 167, 170, 172
 Euraxess 47, 59, 66
 evaluation bodies 17, 20
 executive 23, 84, 183, 185
 expertise 36, 50, 57, 73, 79, 90, 93, 94, 96, 112, 126, 147, 166, 167, 186
 extension of the doctorate 35, 82, 97, 101, 102, 104, 105, 111, 125, 147, 148, 151

F

failure 16, 26
 falsification of results 74
 family 35, 60, 61, 109, 117, 188
 family reunification 61
 fee 90
 field research 72, 166
 field study 152
 fieldwork 25, 33, 99, 147
 figurehead 78
 financial compensation 118, 122
 "first name" 30
 fixed-term contract 17
 foreign doctoral candidate 31, 38, 57, 59–61, 143, 160
 French Community of Doctorate Holders 188
 full-time 18, 25, 26, 56, 61, 81, 97, 98, 100, 103, 105, 106
 funder 17, 19, 21, 34, 35, 38, 41, 49, 74, 141, 186
 funding 18, 19, 21, 22, 25, 29, 34, 35, 38, 46, 52, 56, 61, 76, 79–81, 83, 88, 98, 100, 103, 104, 106, 166, 169, 170

G

gap period 101–103
 gateway 186
 grade 136
 graduation ceremony 180, 189
 group
 research 22, 23, 25
 working 19, 21, 68, 78

H

HAL 118, 138
 harassment 56, 81, 107, 113, 154
 HCERES 88, 96, 116, 147, 178

HDR (habilitation) 18, 75, 77, 78, 134
 head of the institution 36, 58, 59, 81, 82, 101–104, 110, 111, 129, 134, 135, 151, 157
 health insurance 57, 58
 hosting agreement 38, 59–61
 hosting the doctoral candidate 19, 21, 40, 66, 68
 human resources 46
 department 96, 143, 150
 management 51, 65, 150

I

implementation 19, 21, 27, 57, 71, 110, 150, 166, 170
 index point 36, 91, 92
 indicator 82, 105, 178, 181
 individual education plan 86
 individual monitoring committee 57, 74, 81, 82, 84, 108, 134, 151, 152, 167, 168
 initiator of the doctoral project 26, 30
 innovative character 15, 26, 27, 73, 116, 172
 intellectual property 28, 29, 38, 61, 87, 108, 112, 114–116, 118, 120–122, 124, 132, 133, 139, 143, 171
 interdisciplinarity 16, 85, 167, 172
 interest 122, 123
 internal regulations 36, 67, 109
 international 83, 85, 87, 116, 167, 169, 170, 173, 179, 183, 187, 189, 190
 international volunteering 190
 interpersonal skills 16
 intrapreneurship 186
 invention 15, 26, 115, 116, 121–124
 inventor 121, 122
 isolation 26, 67, 100, 107, 109, 111

J

job search 61, 141, 143, 148, 160, 163, 177–179, 187, 189, 191
 joint advisory committee 36, 109, 111, 129, 157
 jury 18, 91, 131, 133–140, 142, 152

K

know-how 15, 16, 18, 26, 76, 83, 122, 144, 146

L

laboratory council 129
 laboratory notebook 79
 lack of integration of the project 26
 language 16, 66, 87, 132, 142
 launch meeting of the doctoral project 68
 lawyer 112, 186
 leave 18, 67, 101–103, 145, 156, 158, 161, 162
 maternity 35, 101, 102, 108, 156
 of absence 162
 parental 38
 sick 35, 101, 108
 letter of recommendation 52
libéralité 35, 38, 108
 licence 29, 85, 93, 122–124

M

managerial issues 28
 manuscript 79, 98, 101, 117–119, 131–133, 135–142, 162
 master 15, 27, 40, 42, 50, 54, 68, 71, 85–87, 93, 191
 medical examination 58, 60, 66
 mentoring 84
 methodology of work 15, 18, 26, 27, 72, 74, 79, 80, 86, 98, 145, 166, 169, 171, 183
 minimum wage 34, 36, 57, 91
 mobility 33, 51, 53, 59, 66, 125, 183, 186, 187, 190, 191
 model charter 56
 moral rights 115, 119
 motivation letter 52

N

negotiation 94, 172, 185
 network 16, 20, 22, 47, 59, 76, 94, 144, 147, 148, 177, 179–181, 187–189, 191
 network interview 191
 network maintenance 189
 new knowledge 15, 26, 115
 non re-enrolment 149, 151
 non-contractual doctoral funding 17, 18
 notice 156–159, 162

O

occupational medicine 66, 152, 154
 office 29, 40, 100, 111, 143

professional integration assistance 178

OFII 60
 open science 118
 organisational chart 67, 68
 originality 40, 115, 172

P

part-time 36, 56, 98, 105, 106, 147, 151
 part-time doctorate 97, 147, 151
 "passeport talent" 38, 59–61, 143, 160
 patent 16, 27, 29, 46, 69, 72, 83, 87, 108, 115, 116, 118, 119, 121–123, 142
 personal data 177
 Personal Training Account 88
 perspective 132
 plagiarism 74, 116, 120, 135, 139
Pôle Emploi 47, 143, 145, 160, 191
 portfolio 75, 76, 82, 84, 86, 89, 141, 167–169
 postdoctoral research 17
 precarity 127, 161, 162
 precarity premium 161
 pregnancy 102, 158
 premiums 38
 preparation for recruitment applications 86
 prevention service 152
 printing 68, 83
 private sector 17, 22, 23, 28, 35, 37, 58, 83, 133, 145, 146, 153, 155, 158, 160, 165, 167, 179, 180, 183–187, 190
 professional activity 59, 69, 127
 professional development 85
 professional forum 86, 87, 96
 professional fulfilment 190
 professional inadequacy 107, 154, 157
 professional integration 16, 50, 65, 66, 71, 125
 professional project 18, 19, 22, 50, 52, 53, 73–76, 79, 81, 84, 86–88, 134, 152, 153, 191
 professional social networks 187
 professional travel 69, 72, 76, 83, 190
 project feasibility 28, 30, 40, 58, 99
 project management 15, 75, 76, 84, 87, 99, 100, 104, 166, 167, 170–172
 prolongation of the doctorate 105
 promotion of the doctorate 20, 96
 protection of results 94

provision 67
 provision for young doctors 187
 prud'hommes 112
 psycho-social risks 152
 public servants 91
 public service 22, 36, 58, 91, 92, 145, 153, 156, 186, 190, 191
 public service entrance examination 190
 publication 27, 29, 40, 46, 56, 69, 72, 74, 83, 87, 99, 104, 116–118, 120, 121, 123, 135, 138, 139, 170, 173
 publisher 117, 118, 120, 132, 139
 publishing a book 83
 publishing contract 117
 putting into perspective 27

Q

quality approach 167
 quality monitoring 19, 75, 86
 quality of the doctoral project 26, 34, 39–41, 51, 54, 103

R

rapporteur 131, 133–135, 140
 reconversion 17
 recruitment committee 49, 50, 52
 recruitment criteria 40, 45, 50, 53, 56
 recruitment interview 50, 51, 53
 re-enrolment 108
 refusal of defence 108, 135
 refusal of re-enrolment 108, 151
 registration 18
 reimbursement of salaries received 57
 reorientation 190
 representation 39, 40, 66, 70, 95, 96, 109, 112, 125–129, 147, 157, 158
 research board of the academic council 30, 58, 75, 77, 151
 research data 118
 research field 16, 72, 99, 116, 133, 149, 169, 171, 172, 188
 research institution 30, 34, 37, 66, 108
 research methodology 76
 research problem 21, 22, 25–27, 45, 50, 53, 72, 103, 105, 132, 165, 169, 171
 research seminars 116
 residence permit 31, 38, 59–61, 143, 159, 160

resignation 109, 153, 155, 156, 160
 resources 15, 23, 25, 26, 28–30, 33, 39–41, 46, 59, 67–69, 96, 107, 109, 112, 116, 143, 150, 168, 191
 responsibility of the doctoral supervisor 29, 33, 42, 99, 104
 retirement 18, 35, 38, 184
 right of withdrawal 153
 risks 40, 61, 72, 100, 103–105, 123, 138, 152, 153, 172

S

safety 56, 67, 152–154, 170
 schedule 26, 27, 45, 47, 56, 68, 72, 74, 80, 81, 103, 148
 school certificate 59
 scientific challenges 180
 scientific community 15, 23, 27, 68, 72, 82, 132, 136, 139–142
 scientific cooperation 19
 scientific isolation 40, 100
 scientific network 79, 146, 147, 173, 188
 scientific objectives 27, 72, 147
 scientific obstacles 73
 scientific policy 19–21, 23, 25–27, 30, 39–42, 51, 58, 69, 100
 scientific stakes 72
 secondment 191
 security 172
 seeking funds 18, 22
 selection of a doctoral project 34, 56, 99
 seminar of the research unit 40, 69, 74, 79, 111
 sense of belonging 189
 skills 16, 78
 social security 18, 35, 38, 108, 143
 social skills 144, 148, 166
 software 29, 83, 116, 119, 123, 124, 133, 142
 source code 119, 123, 124
 spouse 60
 STAR 138
 start-up 185
 state of the art 26–28, 73, 98, 132, 185
 status
 renewal 59
 student card 65
 subject
 change 107
 submission of doctoral projects 39

submission of the thesis manuscript 135, 136, 138
 summary 171
 supervision 22, 23, 26, 28, 30, 40, 54–56, 58, 75, 77–80, 87, 93, 94, 98, 100, 107, 114, 125, 132, 166, 169, 180
 supervision rate 56, 58, 77, 78
 supplement teaching 90, 92, 93, 95
 survey on professional development 177–181

T

tax 60, 180
 teaching 16, 22, 36, 87, 91–93, 102, 147, 167, 185
 technological monitoring 93, 185
 TEL 138
 temporary public servant 36, 38, 57, 58, 61
 termination of the doctoral programme 61, 102, 105, 107, 109, 140, 149–155, 159, 162, 163
 territorial collectivity 19, 25, 28, 34, 93
 “thèse d’état” 100, 133
 “thèse sur travaux” 131
 theses.fr 138, 162
 thesis 139
 thesis availability 138
 thesis outline 132
 time constraints 51, 72
 training policy 87
 transfer of research results 16, 83, 94, 122, 168, 170, 177, 180, 185
 transparency 39, 41, 49, 51
 trial period 35, 57

tuition fees 58
 tutor 17, 18, 84, 91

U

uncertainty 16, 51, 54, 72, 98, 169
 unemployment 18, 35, 38, 57, 60, 61, 143, 158–160
 union 112, 126, 158

V

VAE 163, 169
 validation des acquis de l’expérience *see* VAE
 violence 107
 visa 31, 60, 61
 vocabulary 16, 144

W

withdrawals 50, 53
 work 76, 78, 99, 115–120, 123, 133
 work contract 17, 19, 35, 37, 38, 52, 57, 59–61, 102, 105, 107, 108, 116, 118, 122, 127, 141, 143, 149–155, 160, 163, 184
 work contract extension 102
 work permit 59, 61
 work progress 73, 74, 79, 81, 110, 133, 170
 working conditions 23, 39, 46, 56, 81, 99, 104, 107, 111, 112, 125, 127, 152, 154, 155, 166
 working time 23, 67, 85, 90, 95, 151
 workplace 85
 work-related travel 29, 33
 workstation 167
 writing 15, 74, 79, 98, 121, 131–133, 139–142, 173

Licence

The *Guide to a Doctorate in France* is distributed under a Creative Commons CC BY-NC-ND 4.0 licence authorising its non-commercial reuse without modification. The ANDès and the CJC invite individuals and organisations wishing to use and modify the files to contact them so that they can assist them in their efforts.



★
★ ★

Illustrations

ALM

N° d'édition: 358895625-1
Dépôt Légal: février 2022
Achevé d'imprimer: février 2022

Imprimé en Union Européenne