

# Internal rules for the Life Sciences doctoral school « *Sciences du Vivant* », no. 657, of PSL University

December 2023

## Regarding:

The French Education Code.

The decree no. 2009-464 of April 23, 2009, as amended, on contract doctoral students in public higher education or research establishments.

The decree no. 2019-1130 of November 5, 2019, as amended, creating the Université Paris sciences et lettres (Université PSL) and approving its bylaws.

The order of May 25, 2016, amended by the order of August 26, 2022, establishing the framework for doctoral training and the procedures leading to the award of the doctoral degree.

The order of December 26, 2022, amending the order of August 29, 2016, setting the remuneration of contractual doctoral students.

The PSL University Doctoral Charter.

The Charter of Ethics for Research Professions of January 2015 (ratified on January 22, 2019);

The European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

The deliberation of the Board of Directors of Université PSL delegating the administrative management of PSL doctoral students to operating establishments.

Regarding the deliberation n°x/ 2023 of the Governing Board of Université PSL at its meeting of December 14, 2023, approving the present internal rules.

## Foreword

PSL University's Life Sciences Doctoral School « *Sciences du Vivant* » was born out of the ambition to create a PhD school of excellence, competitive at national and international level, supported by teams developing top-level research in life sciences at the interface between knowledge and its applications in biotechnologies and health. Its creation aligns with PSL University's Graduate Program in Life Sciences. To ensure continuity between the master's degree and the doctorate, this program offers its students and future PhD students high-level training through research, and guarantees its coherence, legibility, and visibility on an international scale. The Life Sciences doctoral school is responsible for: evaluating students coming from French universities (those in the eponymous graduate program) and from abroad who are interested in pursuing a thesis at Université PSL; allocating doctoral contracts; monitoring doctoral programs and training.

The policy for attachment to the doctoral school is based on research units. In the case of multi-disciplinary units such as those commonly found within PSL University and/or units historically attached to multiple supervisory committees, attachment to other doctoral schools is also possible, and must be the subject of a convention as stipulated in the decree of August 26, 2022. This document is in line with the PSL University Doctoral Charter. They define the doctoral school's operating rules in terms of governance, recruitment, monitoring, and training of PhD students. It is distributed to all supervisors and PhD students of the doctoral school. These rules and any amendments to them are submitted by the Doctoral School Council and must be approved by the PSL University Governing Board.



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# 1. PhD School governance

## 1.1. *The Doctoral School Management*

As defined in article 6 of the decree of May 25, 2016, the doctoral school is headed by a director assisted by a council.

The director of the doctoral school is chosen from among its members, according to the criteria defined in the decree of May 25, 2016. He/she is appointed for the duration of the accreditation by the President of PSL University, after consultation with the Doctoral School Council and the Research Committee. His/her mandate can be renewed once.

The director attends Council meetings as a consultative member. He is an entitled member of the Life Sciences Graduate Program Executive Committee.

Assisted by a Management Committee, he implements the doctoral school's action program. Each year, he presents an annual report to the university's research committee.

He/she is supported by an administrative officer who coordinates the work of the doctoral school, the Collège Doctoral and the thesis preparation centers, and ensures the educational and administrative monitoring of the PhD students.

### 1.1.1. **The deputy director**

A deputy director of the doctoral school may be appointed by the President of PSL University after consultation with the doctoral school council and the Research Committee. He/she is appointed for the duration of the accreditation. He/she may be reappointed once.

In the absence of the Director, he/she may replace the latter in all his/her missions and sign all related documents.

### 1.1.2. **The Executive Committee**

The Director and Deputy Director are members of the Executive Committee. Up to three additional researchers or teacher-researchers may be invited by the doctoral school director to join the committee, upon the recommendation of the affiliated laboratories. The aim is to ensure that each of the thesis preparation centers <sup>1</sup> is represented.

The Executive Committee meets monthly. It is responsible for the operational deployment of the doctoral school's program. Members of the Executive Committee attend the meetings of the Doctoral School Council in a consultative role.

## 1.2. *The PhD School Council*

### 1.2.1. **Board membership**

The Doctoral School Council has a total of twenty-six members. Its composition must ensure a proper balance between men and women, as well as between all members of the Life Sciences doctoral school (thesis preparation centers, Life Sciences Graduate Program, researchers covering the various disciplines concerned), as follows:

- 16 representatives of the research units or teams of the thesis preparation centers, including at least two representatives of engineering, administrative or technical staff appointed by the Governing Board of the University.

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<sup>1</sup> Cf. Deliberation n°63/2020 of the Governing Board of Université PSL concerning the delegation of administrative management of PhD students to its component institutions.

- 5 members from outside the doctoral school, chosen among qualified personalities in the scientific, socio-economic, or cultural fields involved. They are appointed by the doctoral school's council, upon the recommendation of its director.
- 5 PhD students elected by their peers.

The list of Council members is available on the doctoral school's website.

Aside from elected PhD students, whose mandate is for a maximum of two years, all other members of the Council are appointed for the duration of the school's accreditation. They may be reappointed once.

### **1.2.2. Appointment procedures and role of PhD student delegates**

PhD students at the doctoral school elect their representatives to the Council by a single-round list system, with proportional representation at the highest remainder. Lists are alternately composed of one candidate of each sex.

For each PhD student representative, a deputy is elected under the same conditions as the full member; he/she sits only in the absence of the full member.

When a titular representative's seat becomes vacant, he or she is replaced, for the remainder of the term, by his/her alternate, who becomes the titular representative. When the seat of an alternate representative becomes vacant, it is allocated, for the remainder of the term, to the first non-elected candidate on the same list. When the vacant seat of a full representative can no longer be filled in the order of presentation of the list by applying the dispositions set out in the present paragraph, a partial renewal is held.

PhD students' representatives on the doctoral school council participate fully in its deliberations and contribute to the school's scientific activities.

### **1.2.3. Council operating rules**

The Council adopts the doctoral school's action program. Through its deliberations, it administers the affairs of the doctoral school. It sets all the rules for the contest (rules governing eligibility to submit a research project, criteria for evaluating candidates, procedure and timetable for the contest, validation of the jury's composition, etc.). These rules are made explicit and published on the doctoral school's website.

The Doctoral School Council meets at least twice a year. It is convened by the Director of the Doctoral School, who moderates the meetings.

Except in cases of emergency, the Council is convened at least 8 days before the scheduled meeting date. The agenda appears on the letter of convocation. Any member of the Doctoral School Council may request that items be added to the agenda. The Board can only validly deliberate if a quorum (majority of those present and represented) is fulfilled. The Board may invite to its debates, in an advisory capacity, any person deemed necessary for a meeting.

If a Board member is temporarily absent, he/she may give a proxy to another Board member sitting in the same formation as him/her. All proxies must be in written form and are valid only for the meeting in respect of which they were given, or for the reconvened meeting with the same agenda. No individual is allowed to hold more than 2 proxies. In the case of resignation or vacancy, a replacement is appointed for the remainder of the current term.

A vote on a question arising from an item on the agenda may be taken if requested by at least half of the members present or represented.

At the end of each meeting, a report is drawn up and sent to each member. The report becomes final once its terms have been approved by the Council. These reports are also sent to the Vice-President of Research, Science and Society of PSL University.

Council meetings are not open to the public. Only the members of the Council and invited members take part in these meetings. The list of permanent guests is determined by the Board at its first meeting (Chairman, Vice-Chairman for Research, Science and Society, and Director of the Doctoral College of PSL University).

### *1.3. Pedagogical council*

The pedagogical council, made up of researchers and lecturers' representative of the doctoral school in all its diversity, will be involved in monitoring PhD students throughout the various stages of their thesis, and in the scientific activities of the doctoral school (training, career guidance, annual colloquium, etc.). In addition to one or two specific meetings per year, members of the Pedagogical Council are invited to council meetings, with no voting entitlements.

Each PhD student is assigned a tutor, who is part of the teaching team and has access to the reports of the annual Individual Monitoring Committees (CSI).

## **2. PhD student recruitment**

The doctoral school implements a policy of admitting PhD students based on explicit and public criteria, according to a transparent, open and fair procedure. Admission criteria and procedures are validated by the Doctoral School Council. The admission procedure is based on the principles set out in the PSL University Doctoral Charter, the European Charter for Research, and the Code of Conduct for the Recruitment of Researchers.

### *2.1. General principles*

The PhD students are recruited in two distinct ways: through the competitive process run by the doctoral school, and on an ad hoc basis for contract PhD students receiving funding from their own resources. Whatever the source of funding, the Executive Committee validates the quality of the candidate and his/her thesis project.

In the case of ad hoc recruitment, each application is examined by the Executive Committee. It may seek external advice from specialists in the field concerned and/or from the Doctoral School Council. If the dossier proves insufficient or outside the scope of the doctoral school's scientific policy, the management of the doctoral school may refuse to register the candidate for a thesis.

The doctoral school requires that each of its PhD students benefit, for a period of 3 years (full-time research equivalent), from sufficient funding to prepare their PhD in good conditions, thereby reiterating the funding and duration criteria set by the decree of May 25, 2016.

The doctoral school may accept a thesis extension beyond 3 years if the following two conditions are met:

- the extension request is motivated by a genuine personal reason such as sick or parental leave, an accident at work, or sick leave (paragraphs 1 to 9 of article L 5212-

- 13 of the French Labor Code) and/or scientific reason validated by the Individual Monitoring Committee.
- the PhD student is funded until the end of his/her thesis.

Extensions are granted by the President of the administrative registration institute on behalf of PSL University's President and following the recommendation of the doctoral school's Executive Committee.

## 2.2. *Terms and criteria for candidates*

### 2.2.1. **Diploma requirements**

To be eligible, candidates must hold a master's degree or another degree conferring the grade of Master, following a training program or professional experience establishing their aptitude for research. The head of the administrative registration institute, by delegation from the President of PSL University and on the recommendation of the doctoral school director, may also authorize the application of a person who does not hold a master's degree, but who has completed studies of at least an equivalent level, or who has benefited from the validation of acquired experience or the validation of acquired professional experience prescribed in article L. 613-5 of the French Education Code. The list of beneficiaries of these measures is presented each year to the Doctoral School Council and to the PSL University Research Committee. For foreign candidates, a degree equivalent to a master's is required.

### 2.2.2. **Financing requirements**

Full-time PhD: the doctoral school ensures that the PhD student receives funding in the form of a salary defined in an employment contract for the entire duration of the PhD program. The minimum monthly amount required corresponds to the minimum gross monthly remuneration of the doctoral contract revised in accordance with the revalorizations provided for by law (cf. Decree of December 26, 2022, amending the decree of August 29, 2016).

PhD students on international research programs or receiving funding from a foreign country must be paid the minimum gross monthly amount of the PhD contract. If a supplement is required to reach this amount, it is the responsibility of the doctoral student's research unit.

Part-time PhD: if the PhD student has a professional activity in parallel with the doctorate, his/her employer must provide a certificate stating that the PhD student will be able to devote at least 50% of his/her working time to his/her doctoral research project and that he/she will have funding for a period compatible with the completion of a thesis project.

PhD students with a private-sector doctoral contract (including the CIFRE scheme) must provide proof of a balanced distribution of their time between the research unit and the host company. To this end, their Individual Training Agreement will also be validated by the head of the host research unit and/or the director of the doctoral school.

### 2.2.3. **Other requirements**

In addition to diploma and funding requirements, candidates are evaluated based on their CV (academic background and professional experience), their aptitude for research, and the relevance of their profile to the doctoral project for which they are applying. Their ability to present their thesis topic in its scientific context is also considered in the evaluation process.

## 2.3. *The contest*



Each year, the doctoral school organizes a contest to allocate doctoral contracts granted by the Life Sciences Graduate School of the PSL University, as well as doctoral contracts obtained through various partners, such as foundations (e.g. FRM or Alzheimer Foundation), Multi-Organism Thematic Institutes (e.g. ITMO Cancer) or those financed by Labex (which will be succeeded by the Major Research Programs of the PSL University from January 1, 2025). The contest is designed to guarantee a high level of recruitment within the framework of a clear and transparent process.

This recruitment process is conducted according to a precise timetable and rules that define the contest procedures (composition of the jury, appointment of the jury chairman, duration of interviews, etc.) as well as the eligibility requirements for the attribution of a doctoral contract to a supervisor. Thus, an HDR:

- may submit only one thesis project for any given contest.
- may not resubmit a research project if they were allocated a doctoral contract in the previous year's competition.
- may only supervise three theses at 100% (in the case of co-supervision, the supervision rate of each HDR is counted as 50%)<sup>2</sup>

These rules are explicitly stated and published on the doctoral school's web page and sent each year to all the doctoral school's HDR holders.

The jury is made up of at least 10 members, covering as broadly as possible the different disciplinary fields of the thesis projects. Its composition is proposed by the Executive Committee and approved by the Doctoral School Council.

The contest consists of a pre-selection phase based on applications, followed by an interview phase. At the end of the auditions, the jury establishes the contest ranking, with a main list and a complementary list ordered as follows.

#### *2.4. Registration and re-registration, thesis duration, requests for derogations*

Registration in the first year of the doctoral program follows the admission procedure. It is pronounced by the head of the institution where the thesis is registered<sup>3</sup>, by delegation of the President of PSL University and on the recommendation of the doctoral school director, after receiving the opinion of the thesis director and the research unit director on the quality of the project and the conditions under which it will be realized. It constitutes admission to the courses offered by the doctoral school and the Doctoral College of PSL University.

The administrative procedures for registration are set by the registration institution and communicated to the PhD students by the doctoral school. Registration is renewed at the beginning of each academic year by the head of the registering institution, by delegation of the President of PSL University and on the recommendation of the director of the doctoral school, after receiving the opinion of the thesis director and, from the second registration onwards, of the doctoral student's individual monitoring committee.

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<sup>2</sup> However, when an HDR is already supervising three doctoral students, but at least one of them is due to defend during the last quarter of the year, the doctoral school may permit a transitional excess of up to four doctoral students per HDR.

<sup>3</sup> The administrative registration institution is the thesis preparation institution, unless the latter is Institut Curie, in which case the PhD student is administratively registered at ESPCI Paris-PSL, or Collège de France, in which case the PhD student is administratively registered at ENS-PSL.

For each new registration, the director of the doctoral school ensures that the scientific, material and financial resources are sufficient to guarantee the proper progress of the student's research and preparation for the PhD.

Beyond the three-year limit set by the decree of May 25, 2016, the head of the doctoral registration institution, by delegation of the President of Université PSL, may grant an extension upon a reasoned request from the PhD student, after receiving the opinion of the thesis director, the individual monitoring committee, and the director of the doctoral school. The request for extension must specify how the student will be financed for the additional period up to the date of defense. The report of the monitoring committee, the timetable for writing the manuscript and the projected date of defense must also be included in the request for extension.

## *2.5. Individual training agreement or CIF*

In application of the PSL University Doctoral Charter, an individual training agreement (or CIF – convention individuelle de formation) setting out the terms and conditions of the doctoral training program is signed by the PhD student, the thesis director(s) and, if necessary, by the head of the student's host company or organization during the initial registration.

The CIF indicates the names of the PhD student's registration institution, the doctoral school, and the host research unit. It also mentions the name(s) of the thesis director(s), the director of the host research unit and the PhD student, as well as the rights and duties of the parties involved. It specifies the conditions for carrying out research and preparing the doctorate.

The agreement specifies the subject of the doctorate and the specialization of the diploma, and, where applicable, the funding requirements for the PhD student, as well as all the elements detailed in article 12 of the decree of May 25, 2016. It may be modified as needed. For doctoral contracts under private law (including the CIFRE scheme), the signature of the Director of the doctoral school and/or the Head of the research unit is recommended.

## **3. Supervision and training of PhD students**

### *3.1. Supervision of theses at the Life Sciences doctoral school: guidelines, co-tutorships*

#### **3.1.1. Guidelines:**

The doctoral school's supervisory potential is based on at least 190 holders of the French Habilitation to Supervise Research (HDR), plus some 60 researchers and teacher-researchers who do not yet have their HDR.

Supervising a thesis requires an HDR. However, authorization to supervise or co-supervise a thesis may be granted to a researcher wishing to supervise and co-supervise a thesis even though he/she does not have an HDR (e.g. a professor recruited on a CPJ, a young ERC<sup>4</sup> contract winner, etc. or ATIP<sup>5</sup>/Avenir, a winner of an ANR young researchers award).

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<sup>4</sup> ERC: European Research Council - Conseil Européen de la Recherche. The ERC is a blank, bottom-up program, open to all disciplines, for groundbreaking projects designed to expand the frontiers of knowledge. The only selection criterion is scientific excellence.

<sup>5</sup> ATIP / Avenir: Created in 1990 and 2000 respectively, and merged in 2009, the Atip ("Programme-based incentive thematic action") programs of the CNRS Institute for Biological Sciences and Inserm's Avenir program help young researchers to set up independent teams in the life and health sciences. The program also aims to promote researcher mobility and attract young talent to French laboratories (<https://www.appelsprojetsrecherche.fr/appe/6-atip-avenir-2024>)

Applicants must seek the assistance of an HDR advisor within the Doctoral College to put together an exemption request file, which will be examined by the doctoral school's executive committee. Applicants for the aforementioned dispensation commit to obtaining the HDR as soon as possible, and in any case before the PhD student's defense<sup>6</sup>.

The doctoral school encourages thesis supervisors to take advantage of available training courses (internal school and PSL University Pedagogical Initiative Center, European Molecular Biology Organization, Doctoral College, etc.) to acquire or develop their supervisory skills.

### **3.1.2. Co-tutorships**

In order to develop the international dimension of doctoral schools and scientific cooperation between French and foreign research teams, and to encourage the mobility of PhD students, a French higher education establishment accredited to award PhD degrees may conclude an agreement with one or more foreign higher education institutions, which have similar entitlements in their own countries, to organize an international PhD joint supervision. The co-contracting institutions are bound by a principle of reciprocity.

Under a cotutelle agreement with one or more foreign higher education establishments, the PhD student works under the supervision of a thesis director in each of the countries concerned.

In cases where the rules applicable to doctoral studies in the countries concerned are mutually incompatible, the French institutions are allowed to derogate from the provisions of article 16 of the decree of May 25, 2016, modified by article 17 of the decree of August 26, 2022), under the conditions defined by the cotutelle agreement.

The thesis is defended once only. In accordance with the provisions of article 19 of the decree of May 25, 2016, the president of the jury signs a defense report which is countersigned by the members of the jury.

## **3.2. Doctoral Charter of PSL**

The doctoral charter, adopted on December 15, 2022, by the Governing Board of PSL University, must be signed by the PhD student and his/her supervisor. It defines their respective rights and duties.

## **3.3. The PhD student monitoring system**

### **3.3.1. Individual Monitoring Committee (IMC) or CSI**

Individual monitoring of PhD students is designed to ensure that their thesis progresses as smoothly as possible, to limit the risk of abandonment or excessive thesis duration, and to help them prepare their professional goals. It should enable them to reflect on their training program, their scientific output, and the development of their career plan.

Individual monitoring of PhD students begins with the creation of an Individual Thesis Monitoring Committee (or CSI - Comité de Suivi Individuel) for each student, which meets before each re-registration and validates each request until the end of the PhD. It validates all requests for registration in the 4th year of the thesis, and gives feedback regarding thesis defense permission, which is ultimately validated by the Doctoral School Director. The composition, organization and operating procedures of this committee are proposed by the

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<sup>6</sup> This commitment to defend one's HDR does not apply to Professors recruited on a CPJ. The latter may supervise PhD students and co-supervise theses (article 16 of Decree no. 2021-1710 of December 17, 2021)

Doctoral School Council. The CSI comprises at least two members, one a specialist in the discipline or related to the thesis field, the second a non-specialist from outside the thesis research field. Where possible, the CSI may include a third member from outside the institution. The PhD student is asked for his/her opinion on the composition of the CSI. The head of the institution where the doctoral student is registered authorizes re-registration, on behalf of the President of the PSL University, upon the recommendation of the doctoral school director, after consultation with the CSI and the PhD supervisor.

### **3.3.2. Other monitoring forms: tutoring**

A tutor is also on hand to monitor the progress of doctoral students. The doctoral student can call on one of the HDRs belonging to the doctoral school to meet with him/her, on request, in the event of difficulty. The tutor is therefore a member of the doctoral school's teaching team and is a privileged contact for students who need advice or help, but who do not normally take part in the CSI. The tutor receives the CSI reports and can use them to call a meeting with the student and his/her thesis supervisor.

### **3.3.3. Conflict management**

In accordance with the recommendations stated in the doctoral charter, the doctoral school ensures that aspiring thesis directors are trained to prevent all forms of discrimination, harassment, and sexist and sexual violence.

The yearly Individual Monitoring Committee is designed to limit conflicts and the risk of abandonment, by identifying potential problems and proposing ways of resolving them.

The doctoral school has a conflict management system and may use the conflict resolution procedures and organizations created by PSL University and applicable to all its doctoral schools. Students are informed of their existence. In the event of conflict, the doctoral school director will meet separately with the PhD student and the thesis director, and possibly both simultaneously, to resolve the problem. The tutor may play a mediating role. Where necessary, the doctoral school director may interact with the director of the team and/or unit concerned. If problems cannot be resolved at laboratory and/or doctoral school level, they are dealt with by the Doctoral College of PSL University. If the problem is a matter of scientific integrity, the PSL University referent or the referent of the institution where the student is registered may be contacted.

## ***3.4. Supervision and support for the French Habilitation to Supervise Research (HDR) candidates***

PSL University has delegated the scientific evaluation and administrative management of the HDR applications to its component institutions.

The jury's report is forwarded by the head of the institution preparing the HDR to the President of PSL University, who issues the HDR. The decision to award the HDR is made by the President of PSL University, on the recommendation of the jury.

The diploma " Habilitation to Supervise Research of PSL presented to institution X" is published and sent to PSL University. It is signed by its President.

## **4. Policy regarding thesis defense and duration**

### ***4.1. Defense criteria***

The doctoral defense is governed by the decree of May 25, 2016, setting the national framework for training and the procedures leading to the award of the national PhD diploma. The Life Sciences doctoral school ensures that these national rules, as well as those specific to PSL University, are applied as part of its defense authorization procedure.

The individual monitoring committee can provide a detailed opinion on the advisability of defense. The head of the thesis registration establishment, by delegation of the President of PSL University, issues the defense authorization, after consulting the director of the doctoral school, on the proposal of the thesis director. The doctoral school's defense criteria are explicit and included in the training agreement, in the form of the following text:

*“The thesis must contain the doctoral student's original research results. The aim of the Life Sciences doctoral school is for the doctoral student to have at least one first-position signed publication submitted to an international peer-reviewed journal. A signed article in first position, submitted for publication or deposited on an open scientific archive site, may be considered for authorization to defend.”*

These criteria apply to all students in the doctoral school. Please note that both the students and their supervisors must comply with the PSL University doctoral charter.

#### 4.2. Manuscript writing

As theses lead to the award of a French national diploma, they must be written and defended in French (cf. art. L 121-3 of the French Education Code). However, for scientific reasons, the subject matter may require a paper to be written in English. In such cases, the doctoral school director may grant a dispensation following consultation with the thesis director; in this case, an exhaustive summary in French is required.

The thesis manuscript can be written in the traditional way or "on paper". In both cases, it must include a detailed introduction setting out the scientific context of the research, the current state of knowledge in the field and the working hypothesis, a section describing the results obtained during the thesis, and a section concluding and discussing all the research studies in order to put them into perspective. The manuscript will end with a list of the bibliographical references used. A CV of the PhD student and appendices can be added (e.g., list of training courses attended or complementary activities such as doctoral missions).

Plagiarism is strictly forbidden, whether it results from direct use of existing texts or artificial intelligence methods (cf. Article L122-4 of the French Intellectual Property Code).

#### 4.3. Appointment of referees and jury composition

The PhD student's work is examined beforehand by at least two referees qualified to direct research or belonging to one of the categories mentioned in 1° and 2° of article 16 of the decree of August 26, 2022, amending the decree of May 25, 2016, on the recommendation of the doctoral school director, after consultation with the thesis director.

They are appointed by the head of the administrative registration establishment, by delegation of the President of PSL University.

Referees are external to the research unit where the thesis was prepared, to the doctoral school, to PSL University and to the doctoral project. They must not have signed any publications with the student and cannot be chosen from among the members of the student's CSI. They have the necessary independence and freedom of judgment. They may

belong to foreign higher education or research establishments or other foreign organizations. They must be principal investigators and have already supervised PhD students.

The thesis manuscript must be sent to the referees no later than two months before the date of the defense. The referees must submit their report to the doctoral school administration one month before the defense, for the defense authorization to be issued and the defense to take place.

The thesis jury is appointed by the head of the establishment where the student is registered, by delegation of the President of PSL University, after consultation with the director of the doctoral school and the thesis director. The jury comprises between 4 and 8 members. A minimum of 3 members of the jury take part in the decision, at least half of whom must be French or foreign personalities, external to the research unit where the doctorate was prepared, to PSL University, to the doctoral school and to the doctoral student's thesis project, and chosen for their scientific or professional competence in the field of research concerned, subject to the provisions relating to international doctoral co-supervision defined in Title III of the order of May 25, 2016.

The composition of the jury must ensure a balanced representation of men and women. At least half the jury must be made up of professors or equivalent staff as defined in article 6 of decree no. 92-70 on the National Council of Universities and article 5 of decree no. 87-31 for health disciplines, or teachers of equivalent rank who are not affiliated to the Ministry of Higher Education and Research.

Barring exceptions or special cases, members of the doctoral project's scientific management team and of the PhD student's supervisory team are present, sit alongside the jury during the defense and participate in discussions with the jury.

The defense is public, unless an exception is granted by the head of the establishment where the student is registered, on behalf of the President of PSL University, if the subject of the thesis is deemed to be confidential. In this case, jury members sign a confidentiality agreement before receiving the thesis.

#### *4.4. Minutes and defense report*

The defense minutes are signed by the president of the jury and countersigned by all jury members, except for the thesis director(s), who do not take part in the deliberations. It is then forwarded to the registrar's office. The defense report, signed by all jury members, is sent to the PhD student in the month following the defense.

## **5. Training courses and activities for PhD students**

### *5.1. Guidelines promoted by the doctoral school*

Doctoral training is mainly based on training through research, in the laboratory, in seminars and scientific meetings linked to the activities of the laboratory, as well as in scientific days and the Doctoral Colloquium organized by the doctoral school for all 2nd-year life science doctoral students (keynotes, selected presentations, poster sessions, round tables with industry).

In addition, the doctoral school also considers other aspects of the doctoral path that make further training essential. This is part of a multi-faceted, multi-disciplinary approach that enables students to acquire new skills for their future careers, whether in academia or elsewhere.

The establishments that prepare the theses of doctoral students in PSL's Life Sciences doctoral school have globally recognized expertise in quantitative biology, as well as in the interfaces between biology and health, ecology, physics, mathematics, computer science and chemistry. The doctoral school therefore offers training courses in these fields to students who so desire, to enable them to broaden their range of skills.

Additional scientific training is also available through the PSL University Life Sciences Graduate Program: ABC X courses (Advanced Biology Course in X, Winterschools courses from the Q-Life Convergence Institute, Institut Curie and Collège de France courses, and experimental projects from the Q-Bio laboratory, Python courses). Other activities will be considered as part of this training time, such as attending international conferences and mentoring younger scientists. The PhD student will have to testify to his/her participation in these various training courses as part of the application for authorization to defend the thesis.

In coordination with the existing services provided by the Graduate Program in Life Sciences and by the Doctoral College of PSL University, including a block of training courses in "Scientific culture and integrity", the doctoral school also offers open-ended training courses, leading doctoral students to discover other scientific fields, to take an interest in the epistemology and history of science, and to become more aware of open science and the relationship between science and society, as well as scientific mediation and dissemination. The doctoral school organizes a specific conference on scientific integrity as part of the scientific day dedicated to 1st year PhD students.

Finally, we offer cross-disciplinary or professional training courses, which help to develop or reinforce new skills, open minds, provide keys to defining one's professional project, and optimize one's approach to future employers. To this end, the doctoral school draws on the training courses and tools set up by the Doctoral College of PSL University and its component institutions and associate members.

A total of 100 hours of training over the three years of the thesis is required.

## *5.2. Individual Training Plan or PIF*

Complementary training courses should not be chosen at random to fulfill an obligation imposed by the doctoral school. Rather, they should be tailored to the individual needs and career plans of each doctoral student.

In accordance with the current doctoral order, an individual doctoral training agreement is drawn up when the doctoral student registers. In this agreement, students specify their professional project. This agreement, which can be revised throughout the contract, is accompanied by an Individual Training Plan (or PIF- Plan Individuel de Formation), which is drawn up at the start of the doctorate by the student, in consultation with his or her thesis supervisor and the doctoral school management. This PIF, which can also be revised each year, meets the needs generated by the doctoral student's research and professional project.

Students can take advantage of a wide range of training courses, pooled at the Doctoral College level, to diversify their knowledge, develop their skills beyond their disciplinary field and enable them to build a relevant professional project.

### *5.3. Career tracking for PhD graduates*

Career development is monitored in conjunction with the Doctoral College, which pilots the IpDoc survey. The doctoral school also supports the creation of an alumni network.

## **6. Additional informations**

### *6.1. Gap year*

Exceptionally, upon a reasoned request from the PhD student, an uninterrupted gap period of up to one year may be granted once only, by decision of the head of the institution where the student is registered, by delegation of the President of PSL University, after consultation with the thesis director and the director of the doctoral school. Students benefiting from dedicated funding for their doctoral studies must obtain approval from their employer and the funding entity. The employment contract is suspended for the duration of the break. The rules and modalities of the break are set by the administrative registration establishments based on decree n°2018-372 of May 18, 2018, relating to the temporary suspension of studies in public establishments providing initial higher education training and the circular published in the official newsletter n°15 of April 11, 2019.

During the gap period, the PhD student suspends his/her training and research work. However, the rules and obligations relating to the confidentiality of their work continue to apply. Students must respect these obligations and remain vigilant in protecting the intellectual property of their work.

### *6.2. Stopping the doctorate*

Withdrawal from the doctoral program implies dropping the doctoral research project, the employment contract (if applicable) and non-registration for the diploma. It may be triggered by the personal decision of the student or of the administrative registration establishment, by the student's failure to respect the commitments set out in the PSL University doctoral charter, following an opinion from the individual thesis monitoring committee, or following an opinion from a conflict prevention and resolution commission. In the event of non-renewal, after consultation with the thesis director, the doctoral student is notified of the reasoned decision by the director of the doctoral school. A second opinion may be requested by the student exercising his/her right of appeal to the research commission of the academic council of the establishment in which he/she is registered, or to the equivalent authority.

### *6.3. Application of the internal rules. They are published on the doctoral school's website*

The present internal bylaws were voted on 30/11/ 2023 by the doctoral school council n° 657 Life Sciences and validated by the PSL University Governing Board on 14/12/2023.