

○ 2018 IPDOC SURVEY

PhD & CAREER
FOLLOW-UP OF UBFC
PhD HOLDERS

UBFC


COLLÈGE DOCTORAL
VOTRE DOCTORAT
EN BOURGOGNE-
FRANCHE-COMTÉ


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UNIVERSITÉ
BOURGOGNE FRANCHE-COMTÉ

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FOREWORD

No UBFC PhD graduate of the disciplinary field "Sciences et techniques des activités physiques et sportives" responded to the 2018 IPDoc survey, therefore this field is not mentioned in the present publication.

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Undertaking PhD studies implies undertaking a demanding training programme in order to be awarded the highest degree in France and abroad. The Doctoral College defines and certifies the quality of the doctoral policy in Bourgogne – Franche-Comté. To this end, it oversees, attunes and federates the actions of its six doctoral schools: "Environments & Health", "Carnot-Pasteur", "Engineering sciences and microtechniques", "Law, management, economic sciences and politics", "Literature, communication, languages, arts", and "Societies, spaces, practices, time".

Each PhD student is supported throughout his/her doctoral studies to carry out his/her research project and acquire major skills that will be strong assets in his/her further career.

These skills are now recognised within a national frame of reference. PhD students acquire them through their work within a research team, but also by attending training sessions in cross-cutting and specific fields.

Surveys like the present one are led on a regular basis to provide valuable information on the thesis conditions and career follow-up of PhD holders (those who graduated in 2015 and 2017 in the present document). These surveys rely on an active participation of graduates. They are aimed at providing information to PhD students and help them define their professional project, but also at improving the quality of doctoral training.

 **Philippe Lutz**
Director of UBFC Doctoral College



PARTICIPATION TO THE SURVEY

The IPDoc¹ survey was issued by the Ministry of Higher Education, Research and Innovation to better know the career follow-up of PhD after graduation ("BAC+8"). A regional version of the study targets Université Bourgogne Franche-Comté (UBFC) PhD students and PhD graduates before, during, and after their thesis.

SURVEY STEPS

The study took place as described below. It was launched in January 2019, under the form of an online questionnaire to PhD holders who graduated in 2015 and 2017. The questionnaire remained available for 5 months. During that period, two rounds of reminder phone calls or e-mails were made/sent in February and May. The questionnaire included approximately 65 questions. Answering some questions – not all of them – was compulsory, so that the respondents were free not to answer all questions. In the present document, UBFC presents an assessment of the professional situation of its 2015 (N*2015=348) and 2017 (N*2017=331) PhD graduates on 1st December 2018, i.e., one and three years following defence, respectively.

INCREASE OF THE PARTICIPATION RATE

Among the 679 PhDs to be surveyed, 370 responded, with a global participation rate of about 54.5%, higher than the previous studies led by UBFC or at the national scale². Taking the 2015 and 2017 cohorts into account, the participation rate of the 2015 PhD graduates (around 59.4%) was higher than the 2017 rate (49.4%). This difference may be explained by the different reliability levels of the personal data used for each cohort. The 2015 data were provided by the bureaus of doctoral studies in charge of updating personal data, whereas the 2017 data were taken from the ADUM administrative platform and were updated by PhD students themselves. These latter data included numerous erroneous contacts that made it impossible to contact some PhD holders.

PARTICIPATION RATES PER DOCTORAL SCHOOL (DS)

Among the 2015 graduates, LISIT graduates displayed the highest participation rate (64.9%), whereas LETS graduates displayed the lowest one (48.7%).

Among the 2017 graduates, SEPT graduates displayed the highest participation rate (66%), whereas SPIM graduates displayed the lowest one (40%). This observation can be explained by the high number of foreign students in this DS, whose tracks are more easily lost after graduation.

In 2015, the ES and SPIM DSs taken together represented more than half of the respondents, i.e., 57%. In 2017, they represented 52% of the respondents. The SEPT DS also represented a non-negligible share of the 2017 respondents (19%).

2015 numbers	Graduates	Respondents
LISIT	57	37
ES	96	62
CP	52	33
SPIM	103	55
LETS	39	19
Total (N*)	347	206

2017 numbers	Graduates	Respondents
SEPT	47	31
ES	81	49
LECLA	36	16
CP	56	23
DGEP	22	9
SPIM	90	36
Total (N*)	332	164

 The numbers of respondents per disciplinary field are given page 15, in the "PhDs' professional integration" section.

Participation rate
UBFC 2018 IPDoc

54.5%

679
PhD HOLDERS
2015 & 2017
Cohorts

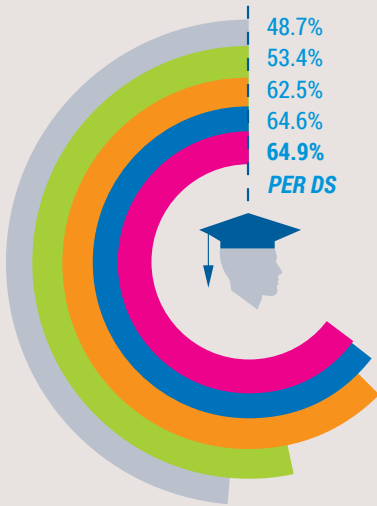


370
PARTICIPANTS
346 full responses
24 partial responses

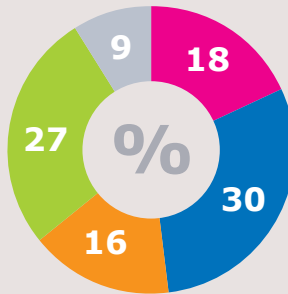
2015
GRADUATES

Overall participation
rate

59.4%



Participation rates
per doctoral school
2015 COHORT



5 DOCTORAL SCHOOLS (DSs)

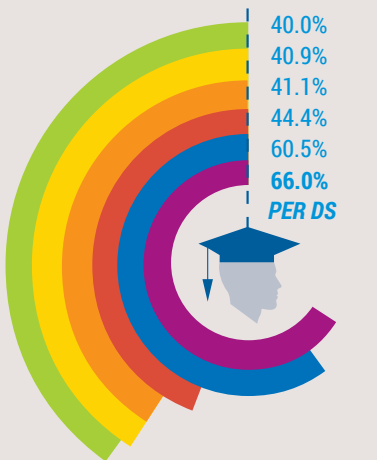
In 2015, doctoral training was provided by five doctoral schools (DSs) covering the following disciplinary fields:

- LISIT - Languages, Ideas, Societies, Institutions, Territories
- ES - Environments and Health
- CP - Carnot-Pasteur
- SPIM - Engineering Sciences and Microtechniques
- LETS - Language, Space, Time, Societies

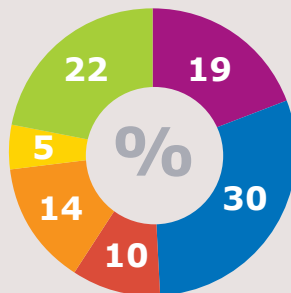
2017
GRADUATES

Overall participation
rate

49.4%



Participation rates
per doctoral school
2017 COHORT



6 DOCTORAL SCHOOLS (DSs)

Doctoral training has been distributed across six doctoral schools since 2017.

- SEPT - Societies, Spaces, Practices, Time
- ES - Environments and Health
- LECLA - Literature, Communication, Languages, Arts
- CP - Carnot-Pasteur
- DGEP - Law, Management, Economy and Politics
- SPIM - Engineering Sciences and Microtechniques

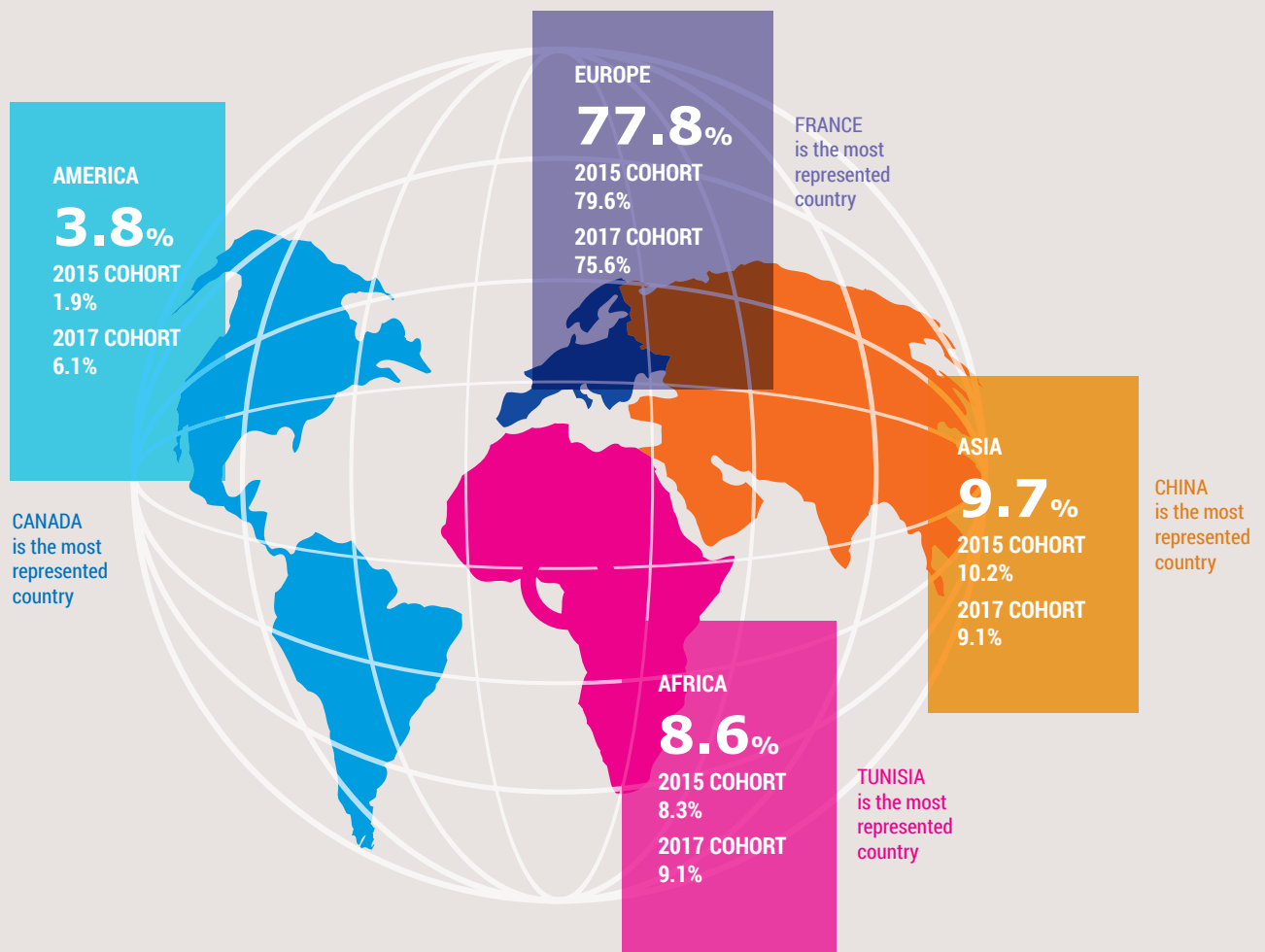
INTERPRETATION

Among the 39 LETS graduates in 2015, 19 responded to the survey, i.e., a 48.7% participation rate. LETS DS represents 9% of the total number of respondents to the survey.

○ NATIONALITY OF THE RESPONDENTS OF THE RESPONDENTS

The vast majority of respondents, all cohorts included, came from Europe (78%, including 75% French nationals).

Asia was also strongly represented among UBFC graduates (10%), closely followed by the African continent (8%).

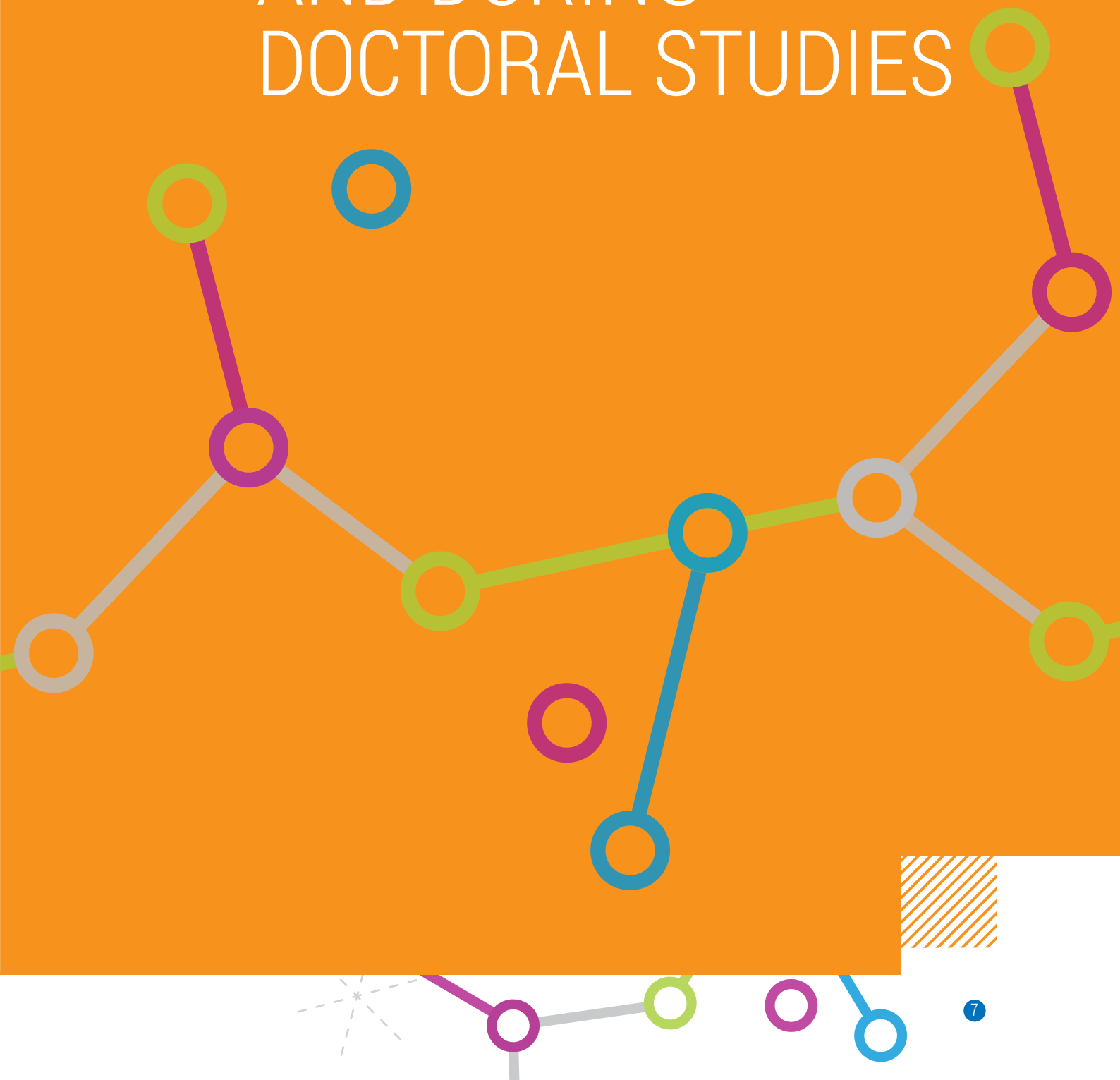


INTERPRETATION

Among the respondents to the 2018 IPDoc survey, 10.2% of the 2015 graduates (i.e., 21) came from Asia, and China was the most represented country.

UBFC 2018 IPDOC SURVEY

BEFORE AND DURING DOCTORAL STUDIES



ACCESS TO DOCTORAL STUDIES AND FUNDING

○ A MAJORITY OF MASTER'S DEGREE, "DEA"¹ OR "DESS"² HOLDERS

Diverse degrees allow access to doctoral training. Most of UBFC 2015 et 2017 PhD graduates were exclusively holders of a French Master's degree, namely a DEA¹ or a DESS² (61.5%). This rate goes up to 74.1% when multi-graduates are added, e.g., holders of an equivalent degree to a French Master's degree, a DEA, or a DESS and an engineer's degree.

A decrease in the percentage of graduates exclusively holders of a Master's degree, a DEA or a DESS is observed from 64.2% for the 2015 cohort to 58.9% for the 2017 cohort (-5 points).

Diplomas held at the start of the PhD thesis

	2015	2017
<i>Out of 367 new PhD students</i>	<i>204</i>	<i>163</i>
Master's degree, "DEA", "DESS"	64.2%	58.9%
Engineer's degree	11.2%	8%
"Ecole Normale Supérieure"	1%	0%
Medicine, pharmacy, veterinary medicine	1.5%	0%
Equivalent of a Master's degree	1%	1.2%
European Master's degree	2%	3.1%
Other foreign diploma	5.8%	15.3%
Doctoral degree	1%	0.6%
Multiple degrees	12.3%	12.9%

This observation is also true for the holders of an engineer's degree, from 11.2% for the 2015 cohort to 8% for the 2017 cohort (-3 points). In parallel, the percentage of respondents who enrolled in doctoral studies thanks to a master level degree exclusively obtained abroad clearly increased from 5.8% for the 2015 cohort to 15.3% for the 2017 cohort (+9 points).

○ THESIS FUNDING

● FUNDING MAINLY LINKED TO PhD STUDIES, EXCEPT IN SHS

The way doctoral studies are funded is essential. Some doctoral schools consider it as a compulsory condition to register as a PhD student. Getting ready to start a thesis therefore consists in finding the financial resources required to carry it out. Different types of funding can be considered, more or less related to the doctoral research activity.



Specific funds to carry out a doctoral project (public funds, private funds, public-private funds) or "Attaché Temporaire d'Enseignement et de Recherche" (ATER) jobs are funding sources in link with doctoral studies.



However, certain PhD students have to fund their thesis through jobs unrelated to their doctoral project or by using their personal resources (including financial help from their relatives, loans or retirement pensions). These types of funds are not related to their doctoral studies *per se*.

Within the framework of the 2018 IPDoc survey, 71.2% of the 2015 graduates and 65.2% of the 2017 graduates benefited from funding in link with their doctoral research. It can be noted that "unrelated-to-research" funding represents 28.8% of funding for the respondents to the 2015 survey, and 34.8% of funding for those of the 2017 cohort. The rate is 31.8% for all respondents taken together.

Share of thesis fundings related or unrelated to the research activity

2015 COHORT



28.8%

unrelated to the PhD student's research activity

71.2%

related to the PhD student's research activity

2017 COHORT



34.8%

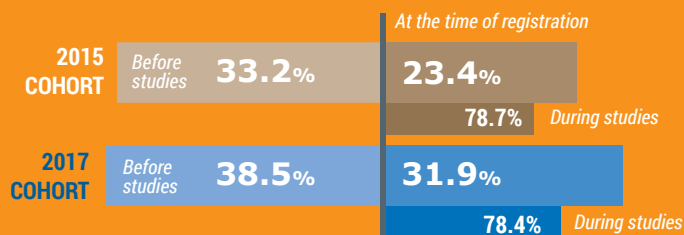
unrelated to the PhD student's research activity

65.2%

related to the PhD student's research activity

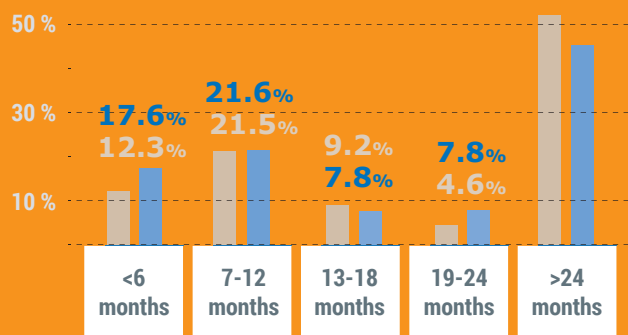
EMPLOYMENT STATUS BEFORE AND AFTER THE PhD THESIS

The high rates of “unrelated-to-research” funding can be partly explained by the fact that a certain number of PhD students already had a job when they registered for a doctoral thesis, and carried out their thesis work in parallel with their salaried activity.



To wit, 23.4% of the respondents who graduated in 2015 and 31.9% of those who graduated in 2017 declared that they already had a job when they registered in doctoral studies. Thus, nearly 28% of the total number of respondents were in this situation. Among them, 78.5% kept their job during the thesis, i.e., around 21% of the total number of respondents.

Number of months in employment before starting doctoral studies



Among the 33.2% of respondents who graduated in 2015 and had a job before their PhD thesis, 33.8% declared that they cumulated both activities for less than one year, while 52.3% declared that they cumulated both activities for at least 2 years. More respondents who graduated in 2017 (38.5%) already had a job before their PhD thesis; 39.2% of them had a job in parallel to their PhD thesis for less than one year, and 45.1% had one for more than two years.

● FUNDING PER DISCIPLINARY FIELD

The respondents who graduated in 2015 and studied “Human & social sciences, sociology and demography” funded their doctoral research through means unrelated to their research (56%) more than other PhD students did, and only 4% (N*=11) obtained funding in link with their thesis work. These percentages are 50/50 for the PhD students who graduated in that field in 2017.

Please note the very high rate of funding unrelated to research of the 2017 “History & geography” respondents.

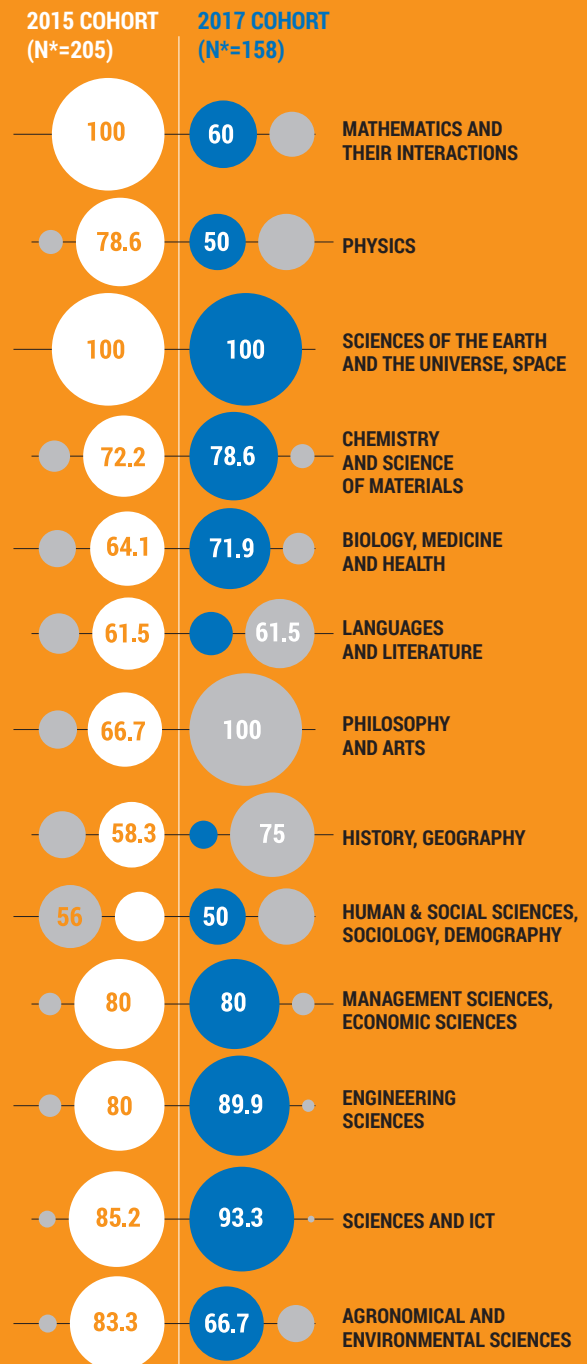
Certain disciplinary fields display extreme funding rates (0% or 100%). “Mathematics and their interactions” (2015 cohort) and “Life sciences, universe, space” (2015 and 2017 cohorts) display 100% funding related to research. Conversely, 100% of the 2017 “Philosophy and arts” respondents appear to have funded their thesis *via* means unrelated to research. However, these extreme scores should be mitigated as they can be explained by the low numbers of respondents in these fields.

Among the disciplinary fields with a number of respondents > 15, “Sciences and ICT” displays stable rates across the two cohorts, with 85.2% of funding specific to doctoral studies for the 2015 graduates, and 93.3% for the 2017 graduates. It is followed by “Engineering sciences” and “Management and economic sciences”.

 The total numbers of respondents *per field* and *per cohort* are available page 15 on PhDs' employment

*N = number of respondents to the “funding” item

Percentages of graduates whose funding was ● related or ● unrelated to their research work



INTERPRETATION

100% of the “Mathematics and their interactions” respondents benefited from funding related to their research in the 2015 cohort, versus 50% in the 2017 cohort.

SPECIFIC FUNDING SOURCES

MOSTLY FRENCH PUBLIC FUNDS

Specific funding for carrying out a doctoral project corresponds to a salary paid in return for doctoral research.

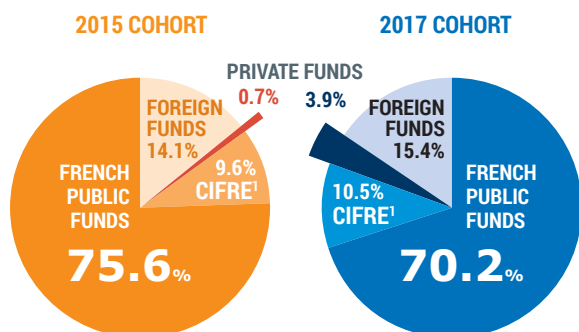
Percentages of graduates who received payment for their research



Based on this definition, 68% of the 2015 respondents and 63% of the 2017 respondents declared that they received such a salary. Therefore, this type of funding appears to be relatively stable over time, and the most common one too.

Different sources of specific funding can be distinguished, i.e., French public funds (e.g., territorial authorities, Ministry of health, etc.), French private funds, French mixed public/private funds (e.g., CIFRE¹), and finally foreign funds.

Origin of specific funds

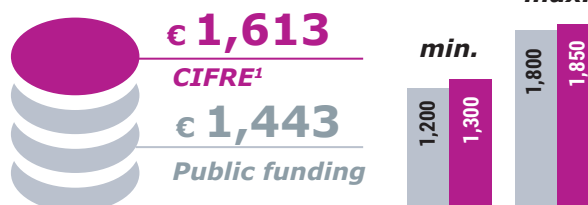


French public funds represent a substantial part of specific funding for the UBFC PhD graduates who responded to the survey. They correspond to 75.6% of the scholarships granted to the 2015 graduates, and to 70.2% of those granted to the 2017 graduates.

Please note a positive evolution of the theses funded by the private sector (+3.2 points) and of CIFRE¹ theses (+0.9 point) between the 2015 and 2017 cohorts.

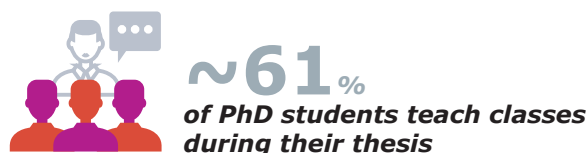
A significant difference is to be noted between the mean net monthly salary of PhD students under public scholarship compared with those under CIFRE¹ scholarship.

Mean monthly net salary



FURTHER MISSIONS

During their PhD thesis, PhD students can have salaried activities other than those related to doctoral work, such as teaching, expert assessment, promotion of research results, or dissemination of scientific information. Teaching is key for them to optimise further employability in the academic sector. In this case, practicums ("travaux pratiques", TP), lectures, or tutorials ("travaux dirigés", TD) are proposed depending on the university's needs and the PhD students' expectations and skills.



This professional stake in link with teaching probably explains why among the three hundred and sixty 2015 and 2017 respondents who answered the item about teaching missions (ATER² excluded), 60.8% declared that they had taught classes.

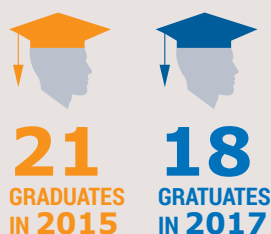
Advice or expert assessment missions are performed by students in firms, administrations, public institutions, etc. They are usually related to the skills and knowledge acquired during the PhD thesis, but are not part of their research project (e.g., staff training, auditing, methodology advice). Thus, out of the three hundred and twenty-two 2015 and 2017 respondents who answered the question about advisory missions in firms, 13.3% declared that they had carried out such missions.

1. Conventions Industrielles de Formation par la Recherche. 2. Attaché Temporaire d'Enseignement et de Recherche. In order to benefit from the ATER status, PhD students must fulfill certain criteria such as defending their thesis within 1 year at most. Therefore, this status is most of the time not open to first- or second-year PhD students.

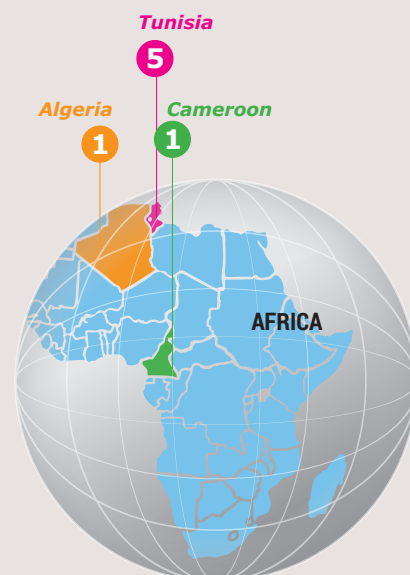
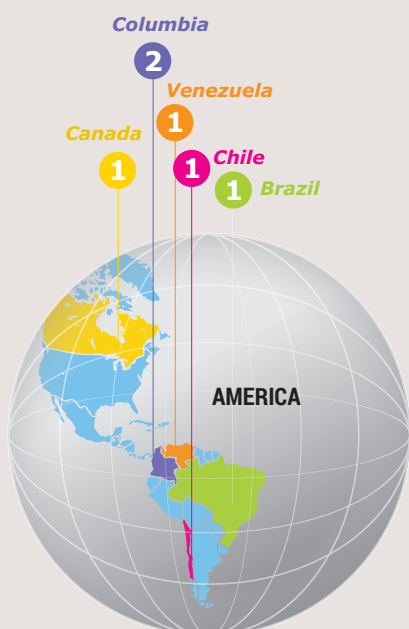
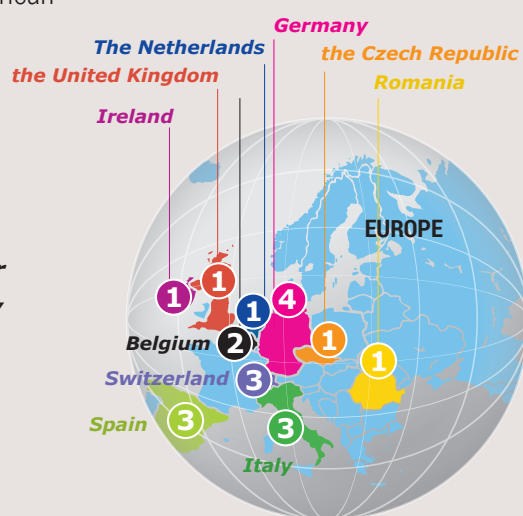
CO-SUPERVISION

Co-supervision favours PhD students' mobility while developing scientific cooperation between French and foreign research teams. Each co-supervised PhD student carries out his/her work under the supervision of one thesis director in each of the two countries. At the end of the thesis, two doctoral diplomas are awarded (one from each institution).

Co-supervision concerns a great diversity of European, Asian or African countries; the main ones are Germany and Tunisia.



carried out their thesis work under co-supervision, i.e., 10.2 and 11%, respectively



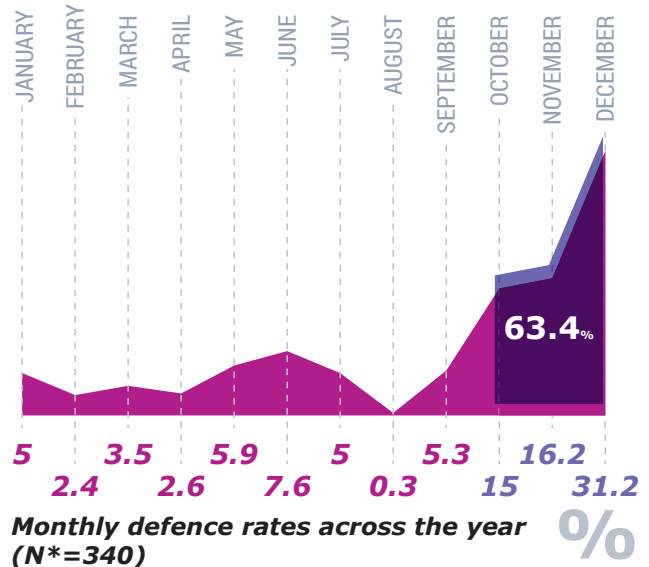
THESIS END



2/3 OF DEFENCES TAKE PLACE IN THE LAST 3 MONTHS OF THE YEAR

Defending one's thesis implies several steps such as designating a reporter, proposing a jury, and filing in the thesis. Most PhD students defend their thesis at the end of the year

Among the respondents of the 2015 and 2017 cohorts (N=340), 63.4% of defences took place in October, November and December. This tendency may be due to specific funds allocated for 3 years and starting in October (e.g., doctoral scholarships). This period also corresponds to the registration period of doctoral schools (between September and December). These statistics also highlight a transition period in terms of work load, for thesis directors as well as for future PhD holders, and the need to schedule the course of the thesis as best as possible.



* N : total number of respondents to the "defence date" item.

CNU QUALIFICATION

CNU (Conseil National des Universités) qualification is a necessary step to apply for university professor (professeur·es des universités, PR) and lecturer-researcher (maîtres de conférences, MCF) positions.

43.7%
of the respondents applied to CNU qualification, which was granted to 85% of them.
84.8% of the 2015 graduates validated their CNU qualification, versus 85.3% of the 2017 graduates.

CNU qualification is not a mere formality to access MCF or PR positions, since failure rates range between 0% and 17%. Apart from LECLA DS, SHS DSs display the highest rates of application to CNU qualification. Among them, DGEP DS displays the highest percentage of applicants to qualification (78%), and also the highest qualification rate.

Proportions of CNU¹ qualifications per DS², 2015 and 2017 cohorts

APPLICATION	GRANTED	NOT GRANTED	NO APPLICATION
CP	33	2	65 %
DGEP	78		22 %
ES	33	3	64 %
LECLA	31	6	31 %
SEPT	42	13	45 %
SPIM	39	8	53 %
LETS	42	11	47 %
LISIT	36	17	47 %

- SPIM - Engineering Sciences and Microtechniques
- LETS - Language, Space, Time, Societies
- LISIT - Languages, Ideas, Societies, Institutions, Territories
- CP - Carnot-Pasteur
- ES - Environments and Health
- LECLA - Literature, Communication, Languages, Arts
- DGEP - Law, Management, Economy and Politics
- SEPT - Societies, Spaces, Practices, Time

UBFC 2018 IPDOC SURVEY

AFTER THE PhD

EMPLOYMENT RATES¹ OF UBFC PhD GRADUATES

A HIGH OVERALL EMPLOYMENT RATE, BUT DISCREPANCIES DEPENDING ON DISCIPLINARY FIELDS

In 2018, i.e., three years after defence and all disciplinary fields included, the employment rate of the PhDs who graduated in 2015 was

93.3%.

This rate is higher than the national employment rates published in 2019 for the 2012 and 2014 cohorts, which were 90.4%, and 90.8%, respectively.

The employment rate of the UBFC PhDs who graduated in 2017 was 93% one year after defence. This rate is higher than the rate of the previous 2018 survey of the 2016 cohort of graduates (91 % in y+1**).

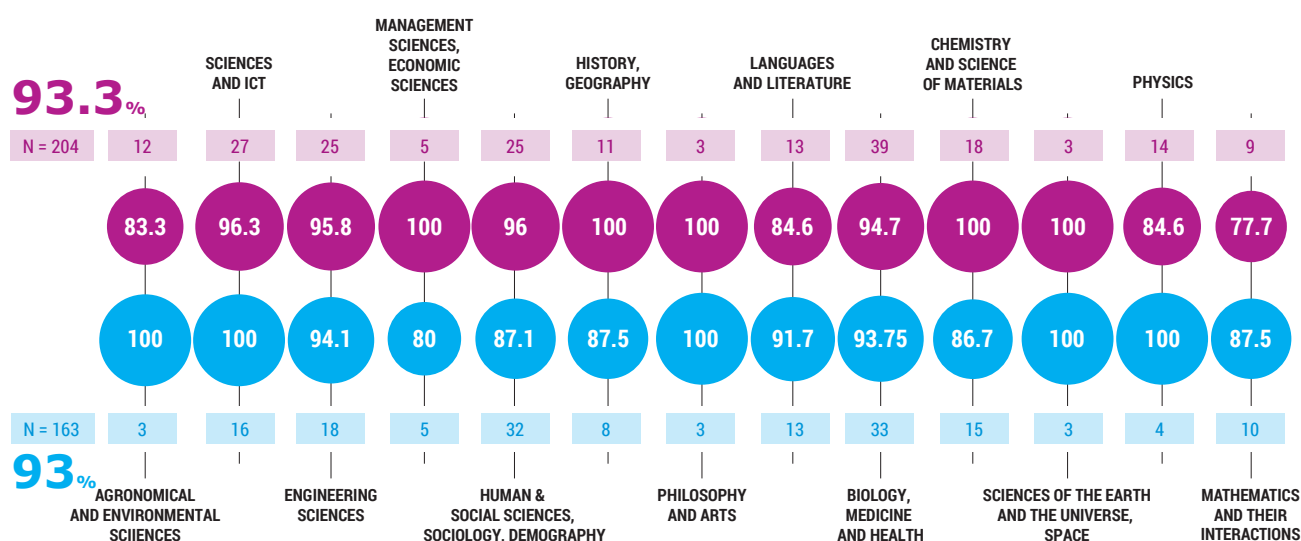
However, discrepancies are found depending on the disciplinary fields: employment rates vary from 100% to 77.7%.

PLEASE NOTE

The disciplinary fields that display extreme scores (100% or 77.7%) are often those for which the number of respondents is very low: "Philosophy and arts" (N=3 in 2015 and 2017), "Earth and universe sciences, space" (N=3 in 2015 and 2017), "Physics" (N=4 in 2017), "Mathematics and its interactions" (N=9 in 2015). The results in these fields are bound to be influenced - maybe biased - by the small numbers of respondents.

Among the disciplinary fields in which the number of respondents is higher (>15), those that display high and stable employment rates over the years are "Sciences and ICT" (96.3% for the 2015 cohort, 100% for the 2017 cohort), "Engineering sciences" (95.8% for the 2015 cohort, 94.1% for the 2017 cohort), and "Biology, medicine and health" (94.7% for the 2015 cohort, 93.75% for the 2017 cohort).

Employment rates on 1st December 2018 of PhD students who graduated in 2015 ● and 2017 ●, and numbers of respondents (N)



1. Employment rate = [number of people in employment/(number of people in employment + number of people actively looking for a job)]. It is calculated based on the sole workforce, so that people under a student status or unemployed and not looking for a job are not included.
 ** y = doctoral graduation year; y+1 = 1 year after doctoral graduation.

	N*	2015	N*	2017
HSS, SOCIOLOGY & DEMOGRAPHY	25	96%	32	87.1%
CHEMISTRY AND MATERIAL SCIENCES	18	100%	15	86.7%
MANAGEMENT & ECONOMIC SCIENCES	5	100%	5	80%

Significant employment differences can be observed across cohorts in certain disciplinary fields. For example, the employment rate in “Human and social sciences, sociology and demography” goes down from 96% for the 2015 cohort to 87.1% for the 2017 cohort, or the employment rate in “Chemistry and material sciences” goes down from 100% for the 2015 cohort to 86.7% for the 2017 cohort.

As for the 20% difference observed between the two “Management sciences, economic sciences” cohorts, it can be explained once again by the low number of employed respondents in this field (N=5 in 2015 and in 2017): a 1-person difference corresponds to -20% in the employment rate calculation.

○ DIFFERENCES 1 AND 3 YEARS AFTER GRADUATION

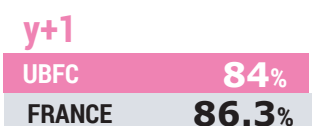
The IPDoc survey makes it possible to understand the evolution of two cohorts in years y+1 and y+3 independently of each other. But the interest of the survey also lies in its longitudinal aspect. IPDoc also gives access to the professional evolution of each PhD holder 1 year (y+1) and 3 years (y+3) after graduation.

Thus, an obvious increase in employment rate can be observed for the 2015 UBFC PhD holders between the first and third years after graduation (+12 points).

An improvement of the employment rate is also observed at the national scale, but to a lesser extent (+4 points).

A disciplinary focus on the 2015 cohort highlights that the most significant differences in employment rates between y+1 and y+3 are observed in “Chemistry and material sciences” (+15 points), in “Biology, medicine and health” (+27 points), and in “Agronomical and environmental sciences” (+37 points).

Employment rates of the 2015 cohort 1 year (y+1) and 3 years (y+3) after graduation (%)



🗨️ INTERPRETATION

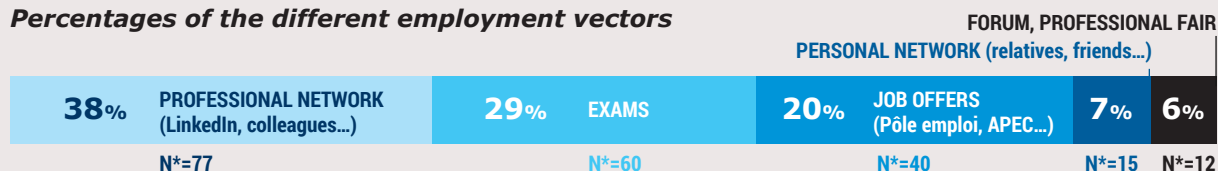
Out of the 94 respondents who graduated in 2015, 84% were in employment 1 year after graduation, versus 95% 3 years later.

Comparison of the employment rates of the 2015 UBFC cohort per disciplinary field 1 year (y+1) and 3 years (y+3) after graduation (%)

	UBFC		FRANCE	
AGRONOMICAL AND ENVIRONMENTAL SCIENCES	63	100	75	88
SCIENCES AND ICT	83	92	93	94
ENGINEERING SCIENCES	88	94	91	95
MANAGEMENT SCIENCES, ECONOMIC SCIENCES	100	100	90	93
HUMAN & SOCIAL SCIENCES, SOCIOLOGY, DEMOGRAPHY	89	100	83	91
HISTORY, GEOGRAPHY	100	100	83	85
LANGUAGES AND LITERATURE	100	100	90	94
BIOLOGY, MEDICINE AND HEALTH	73	100	86	88
CHEMISTRY AND SCIENCE OF MATERIALS	75	100	80	81
SCIENCES OF THE EARTH AND THE UNIVERSE, SPACE	100	100	84	92
PHYSICS	86	86	92	89
MATHEMATICS AND THEIR INTERACTIONS	100	83	93	95

THE PROFESSIONAL NETWORK IS THE FIRST JOB PROVIDER

Percentages of the different employment vectors



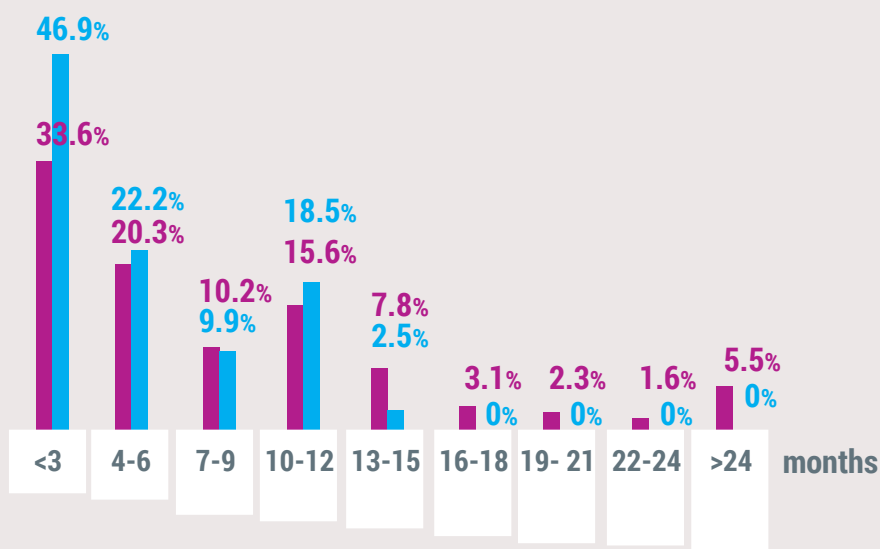
The professional network is the first tool to be cited for getting a job (38% of the 2015 and 2017 graduates). The most frequent case is the transmission of job offers by thesis directors or former collaborators encountered in the course of the thesis. 29% of the respondents found a job by passing a competitive examination.

More specifically, among them 51 (85%) were recruited via a State public service exam, and 7 (11.6%) via a hospital public service exam. 45% of the exams passed by respondents required a doctoral diploma.

FIRST CONTRACT AND UNEMPLOYMENT PERIOD

MORE THAN HALF OF PhD HOLDERS GET A CONTRACT WITHIN 6 MONTHS

Over a one-year period following defence, more than half of UBFC PhD holders signed their first contract within less than 6 months. Such was the case for 69.1% of the 2017 graduates and 53.9% of the 2015 graduates.



Time lapse before signing the first contract

2015 COHORT (N*=128)

2017 COHORT (N*=81)

UNEMPLOYMENT

One year after defence, 70.6% of the 2015 graduates had spent less than 3 months unemployed, *versus* 78.8% of the 2017 graduates. Concerning the 2015 graduates, the disciplinary fields most exposed to unemployment are "Chemistry and material sciences", "Physics" or "Agronomy sciences" (8 months on average). The least exposed fields are "Sciences and ICT" or "Management sciences and economic sciences" (2 to 3 months).

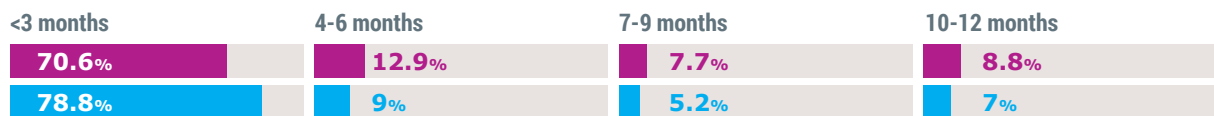
Concerning the 2017 cohort, the disciplinary field most exposed to unemployment is "Earth and universe sciences, space" with an average length of 7 months. "Philosophy and arts", "Agronomical and environmental sciences", "History, geography" or "Languages, literature" are the fields for which the average number of months spent unemployed is the lowest.

These figures may be explained by the fact that some of the PhD holders already in employment at the start of their thesis kept their job after the thesis.

AS A REMINDER

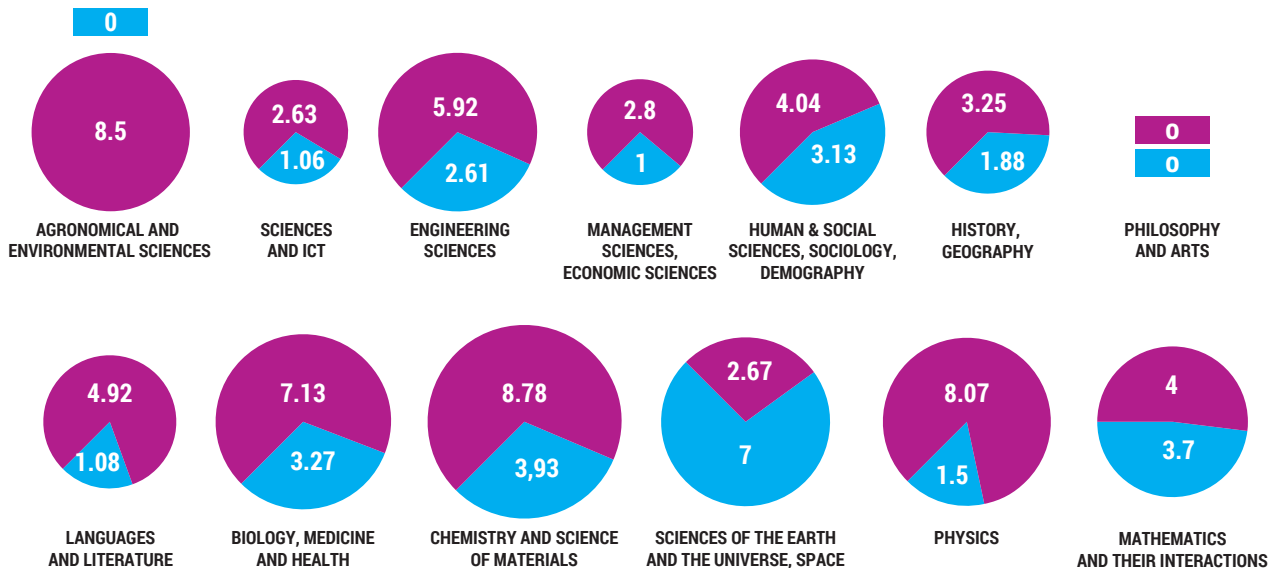
It can be noted again that the extreme 2017 rates observed for "Philosophy and arts" (N=3), "Earth and universe sciences, space" (N=3) and "Agronomical and environmental sciences" (N=3) can be explained by the very low numbers of respondents in these fields.

Length of the unemployment period within the 12 months following graduation 2015 COHORT (N*=170) 2017 COHORT (N*=156)



Average duration of unemployment per disciplinary field y+1 for the 2017 cohort and y+3 for the 2015 cohort

2015 COHORT (N*=170) 2017 COHORTE (N*=156)



POST-DOCTORAL TRAINING



23.6% OF PhD GRADUATES TAKE ON NEW COURSES AFTER THEIR PhD THESIS

It is possible to attend complementary courses following graduation. 23.6% of all PhD students, all cohorts included, attended at least one new course after graduation. Among them, 57.5% took one course, and 42.5% took several courses.

Many reasons can lead PhD holders to take one or several courses after graduation. The most frequent one is "acquiring complementary skills" (ca. 73.5% of the courses). "Specialising" (12.64% of the courses) or "getting ready for a public service competitive exam" (8.1% of the courses) are two other objectives mentioned by PhD graduates.

TO NOTE

"Career move" is targeted by nearly 15% of the post-doctoral trainings mentioned by the respondents.



23.6%

of the PhD graduates attended at least one training course after graduation



57.5%
attended 1 training course



42.5%
attended several training courses

Targeted aims



Acquisition of supplementary skills
73.5%



Career move
15%



Specialisation
12.64%



Preparation of public service competitive examinations
8.1%

PhDS' EMPLOYMENT AND ACTIVITIES



○ MOST GRADUATES ARE EMPLOYED IN HIGHER EDUCATION, RESEARCH AND DEVELOPMENT

Since 2019, the doctoral degree has been listed in the “Registre National des Certifications Professionnelles” (RNCP¹), in the form of fact-sheets that draw an inventory of reference activities and skills expected by employment stakeholders at the end of doctoral studies

Among the classes of activities cited in the RNCP fact-sheets, one can find “Advice, studies or expert assessments” (“Conseil, de la réalisation d’étude ou d’expertise”) in various organisations. This class of activity is cited by 9.9% of the UBFC graduates in employment who responded to the 2018 IPDoc survey.

The survey shows that PhD holders mainly have professional activities related to higher education and research & development (60%). These activities concern lecturers-researchers (following CNU qualification) or R&D engineers in private firms.

This is in agreement with the result showing that the major socio-professional category (SPC) among respondents in employment is “lecturers-researchers and teachers, scientific professions”, all cohorts included (49.8%). Then comes “Engineers and company executives” (24.7%) and “Public sector executives” (8%).

Activity sectors of the 2015 and 2017 graduates in employment on 1st December 2018



Proportion of salaried graduates according to the socio-professional category (N*=299)

PROFESSORS, LECTURERS-RESEARCHERS, TEACHERS, SCIENTIFIC PROFESSIONS	49.8%
ENGINEERS AND TECHNICAL EXECUTIVES, PRIVATE SECTOR	24.7%
EXECUTIVES, PUBLIC SECTOR	8%
EMPLOYEES	7.7%
ADMINISTRATIVE AND COMMERCIAL EXECUTIVES, PRIVATE SECTOR	2.3%
INTERMEDIATE ADMINISTRATIVE PROFESSIONS, PUBLIC SECTOR	1.7%
TECHNICIANS	1.7%
SCHOOL TEACHERS AND EQUIVALENT PROFESSIONS	1%
INDEPENDENT LEGAL AND TECHNICAL PROFESSIONS	1%
INDEPENDENT HEALTH PROFESSIONS	0.7%
INTERMEDIATE PROFESSIONS, HEALTH AND SOCIAL WORK	0.3%
HEADS OF BUSINESSES EMPLOYING LESS THAN 10 SALARIED WORKERS, RETAILERS AND EQUIVALENT PROFESSIONS	0.3%
FARMERS	0.3%

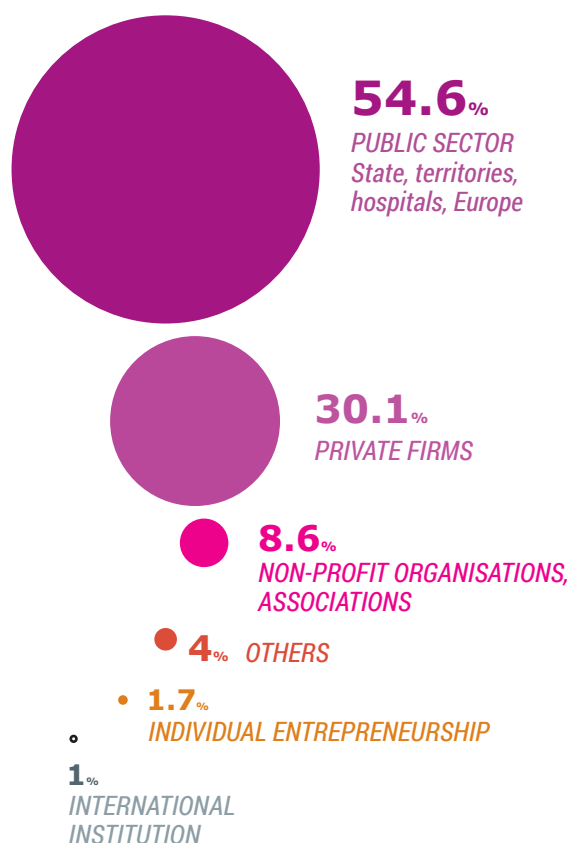
PLEASE NOTE

A relatively high proportion of respondents in employment (7.7%) declared that they belonged to the "Employees" SPC. However, this figure should be taken with caution because many respondents may well have been misled as regards the definition of this SPC. They may have understood it to be the category of people "salaried by an employer". Yet, in the official classification of socio-professional categories² "...employees" gather highly varied and often poorly defined jobs. Of course, secretaries and office workers are included, but also hospital workers, salespersons, firefighters or household workers."

THE PUBLIC SECTOR IS THE MAIN EMPLOYER

In line with the categories of activities of the 2015 and 2017 cohorts assessed on 1st December 2018, a vast majority of respondents belong to the public sector (54.6%), followed by those working in private sector firms (30.1%).

Types of structures employing the 2015 and 2017 graduates on 1st December 2018 (N*=302)



CONTRACT TYPE

CONTRACTS IN FRANCE ARE MORE PERMANENT

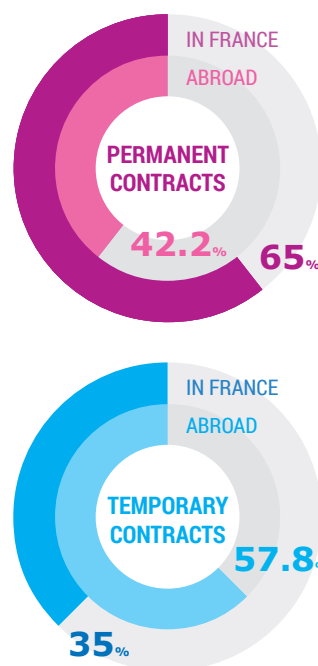
Permanent contracts represent 65% of the contracts of the UBFC 2015 et 2017 respondents in employment in France¹. This percentage is low compared with the national mean percentage of permanent contracts (84.6%) recorded in France in 2017. Respondents in employment abroad are much more subjected to temporary contracts: 57.8% are in such a situation, i.e., 22.8% more than in France.

Furthermore, 76.6% of the 2015 graduates who worked in France benefited from a permanent contract on 1st December 2018, *versus* only 51.5% of the 2017 graduates.

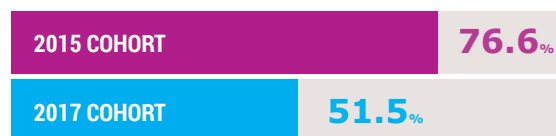
All these observations can be explained by the fact that i) permanent contracts are often preceded by periods of temporary employment, and ii) post-doctoral fellowships, which are often chosen by PhD holders who aim at an academic career in the year following graduation, are by essence temporary. Thus, the 2017 cohort is probably more exposed to temporary contracts of the post-doctoral fellowship type because it was assessed one year after graduation (on 1st December 2018).

Among the part-time employed respondents, half-time workers are the most abundant ones (36.8%). The same percentage is found for workers employed 80% of the time or more.

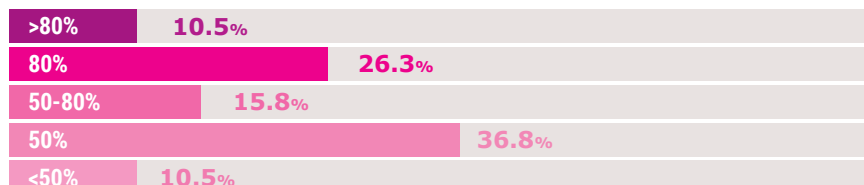
Nature of the contracts of the 2015 and 2017 PhD graduates salaried in France (N*=223) and abroad (N*=64)



Proportion of UBFC PhD graduates on a permanent position on 1st December 2018



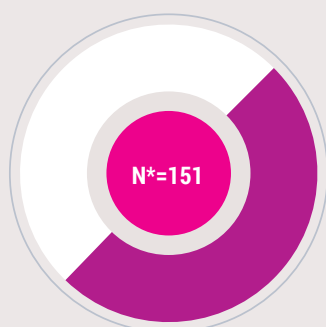
Distribution of the part-time percentages of UBFC PhD graduates on a temporary position in France (N*= 19 for both cohorts)



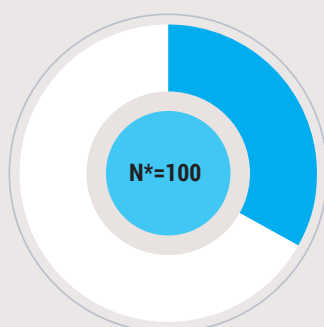
SENIOR POSITIONS

Approximately one PhD holder in two declares an activity involving staff management (49.8%), project management (51.3%), or activities within an international framework (51.3%).

Occupational activities of the 2015 and 2017 PhD graduates on 1st December 2018



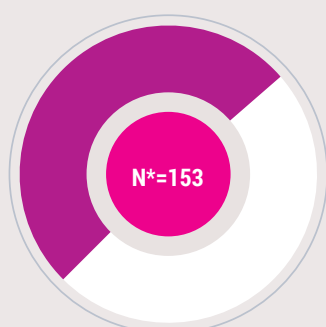
**STAFF
SUPERVISION**
49.8%



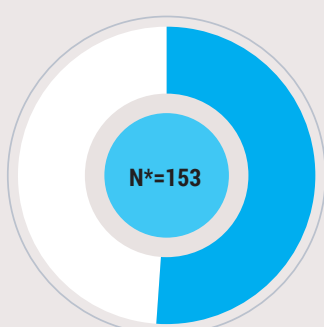
**BUDGET
MANAGEMENT**
33.3%

INTERPRETATION

Among the 2015 and 2017 graduates who answered this question, 151 of them (49.8%) declared that their job involved staff supervision on 1st December 2018.



**PROJECT
LEADER**
51.3%



**INTERNATIONAL
WORK**
51.3%

EMPLOYMENT ZONES OF UBFC PhD GRADUATES

Percentages of PhD holders working in France or abroad (N*=302)



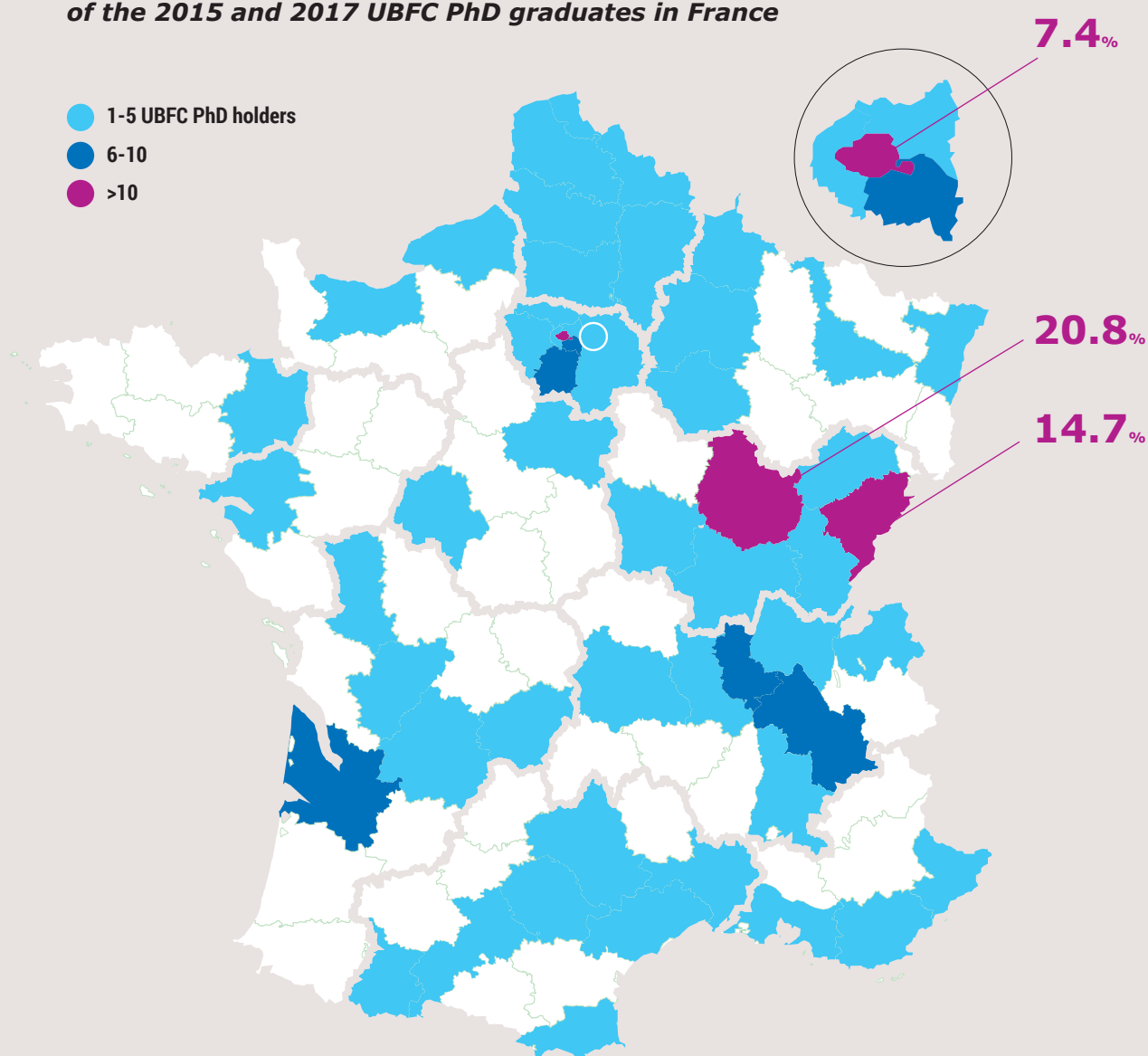
Out of 302 respondents who graduated in 2015 and 2017, 76.5% work in France (231 PhDs) and 23.5% work abroad (71 PhDs).

Localisation and number of the 2015 and 2017 PhD graduates working abroad



The three main counties ("départements") where PhD graduates work are the Côte-d'Or county (20.8%), the Doubs county (14.7%) and Paris city (7.4%). Extended mobility is observed across the French territory, at a higher density in the initial thesis work zones and in the Paris area.

Employment zones and density of employment of the 2015 and 2017 UBFC PhD graduates in France



UBFC PhDs' INCOME



DISCREPANCIES BETWEEN DISCIPLINARY FIELDS

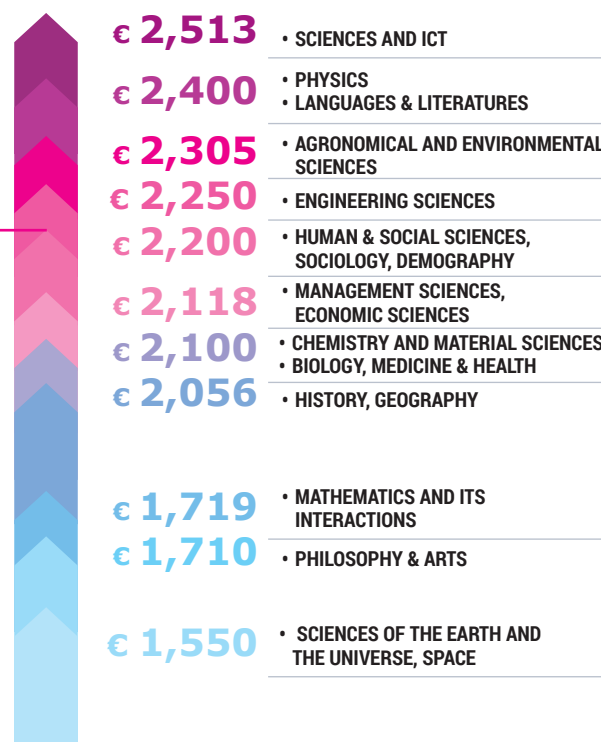
Based on all respondents to the survey, the net median salary of the full-time UBFC respondents is 2,200 € per month.



€ 2,200

Net median monthly salary of the 2015 and 2017 PhD graduates, all disciplinary fields included

Net median monthly salary of the 2015 and 2017 PhD graduates employed full-time in France, per disciplinary field (N*=210)



The graph on the right shows salary discrepancies across disciplinary fields. For example, the lowest net median salary is found in "Earth and universe sciences, space" with 1,550 €, while the highest net median salary is found in "Sciences and ICT" with 2,513 €. This observation is similar to the one published by the SIES (Systèmes d'Information et des Études Statistiques, a subdivision of the MESRI¹) in 2017.

SATISFACTION RATE OF PhD HOLDERS IN EMPLOYMENT

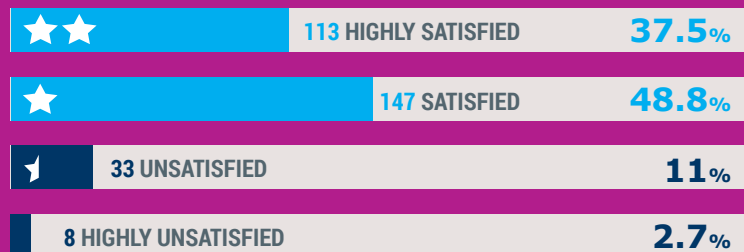


WORK RELATIONSHIPS ARE VALORISED, BUT SALARIES ARE CRITICISED

The overall satisfaction level of UBFC PhD holders regarding their professional situation is high (86.3% are satisfied or highly satisfied). No noticeable difference is found between PhDs working in France and PhDs working abroad.

86.3%

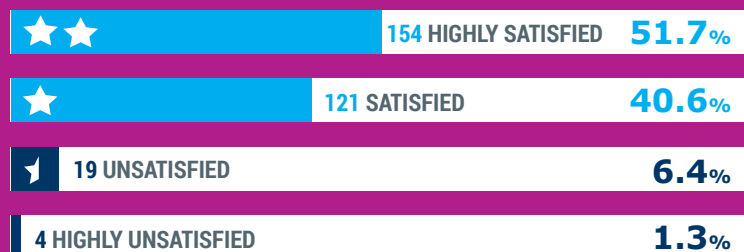
of the respondents altogether satisfied with their professional situation



One of the underlined positive points is the high quality of their professional relationships (92% satisfied).

92%

satisfied with the quality of their professional relationships

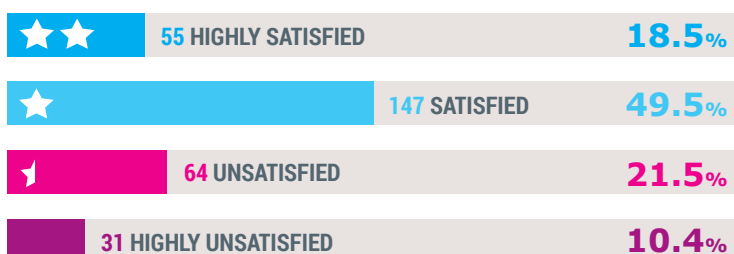




Nevertheless, a non-negligible percentage of the respondents (nearly 32%) is not satisfied with the salary corresponding to their position. Concerning this subject and contrary to commonly admitted ideas, a significance test shows that the satisfaction level of people working in France is slightly higher than the one of people working abroad.

32%

are dissatisfied with their salary level



Another tricky point highlighted by the responses is the career prospects or job opportunities offered by the position: 28% of the respondents are unsatisfied about them.

28%

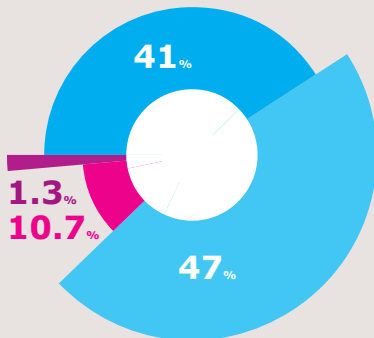
are unsatisfied with their job prospects



Besides the question of salaries, the subjective evaluation of different aspects of PhDs' professional situations (e.g., quality of the relationships, career prospects) by PhDs who have settled in France does not differ from that of PhDs who have settled abroad (in addition to satisfaction with salaries).

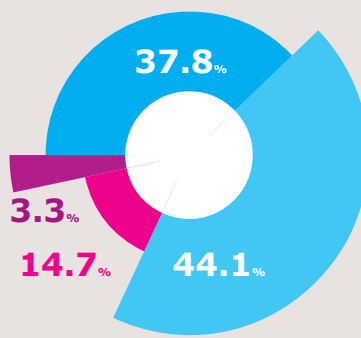


Interest, usefulness and challenges of the jobs



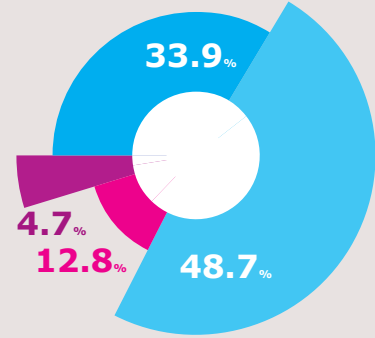
★★★ 123 HIGHLY SATISFIED
★ 141 SATISFIED
✘ 32 UNSATISFIED
4 HIGHLY UNSATISFIED

Improved skills and knowledge



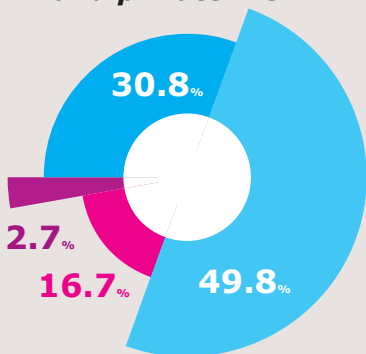
★★★ 113 HIGHLY SATISFIED
★ 132 SATISFIED
✘ 44 UNSATISFIED
10 HIGHLY UNSATISFIED

Openings (international, interdisciplinary,...) linked to the job



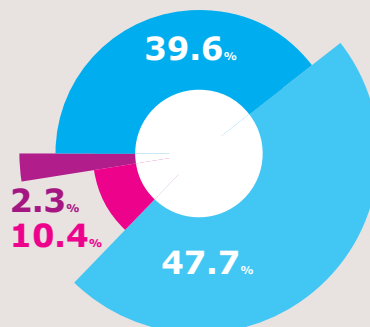
★★★ 101 HIGHLY SATISFIED
★ 145 SATISFIED
✘ 38 UNSATISFIED
14 HIGHLY UNSATISFIED

Balance between professional life and private life

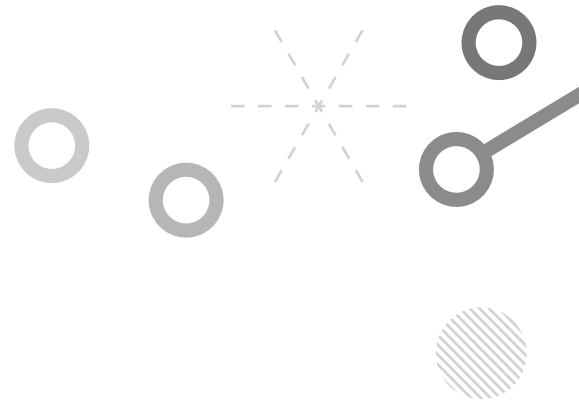


★★★ 92 HIGHLY SATISFIED
★ 149 SATISFIED
✘ 50 UNSATISFIED
8 HIGHLY UNSATISFIED

Quality of life at work and working conditions



★★★ 118 HIGHLY SATISFIED
★ 142 SATISFIED
✘ 37 UNSATISFIED
7 HIGHLY UNSATISFIED



SOURCES AND REFERENCES

SIES memo, "PhDs' fate three years later: indicators per disciplinary field". Ministry of higher education, research and innovation, 2017 (No 10) [viewed on 6th June 2016]. Online ISSN: 2108-4033. Available at:
<http://www.enseignementsup-recherche.gouv.fr/cid123844/devenir-des-docteurs-trois-ans-apres-les-indicateurs-par-discipline.html>

MINISTRY OF HIGHER EDUCATION, RESEARCH AND INNOVATION

Decree No 2013-660 of 22nd July 2013 relative to higher education and research. [Online].

Available at:<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000027735009&categorieLien=id>

"Doctoral degree" RNCP fact-sheet, to be viewed on France Compétences website: <https://www.francecompetences.fr>

SIES memo, "PhDs' professional integration and employment conditions still remain satisfying, with contrasts among disciplinary fields", Paris, MESRI, June 2019. To be viewed online at <https://www.enseignementsup-recherche.gouv.fr/cid142979/des-conditions-d-insertion-et-d-emploi-des-docteurs-toujours-satisfaisantes-mais-contrastees-selon-les-disciplines.html>

INSEE list of socio-professional categories:

<https://www.insee.fr/fr/metadonnees/pcs2003/categorieSocioprofessionnelleAgregree/5?champRecherche=false>

INSEE Première – No1694, April 2018: "A snapshot of the job market in 2017 – The unemployment decrease is confirmed: -0.7 point compared with 2016".



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- Job offers
- Tips and advice to optimise your network
- A directory of present members and former fellow students
- A mentoring system based on mutual help and exchanges
- Participation to / Setting up of topical groups
- Career events
- Firm, partner and recruiter contacts.

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