

ÉCOLE DOCTORALE

DES SCIENCES

POUR L'INGÉNIEUR

Class of 2016 PhD Post-Graduate Information

PhD degree

Doctoral School: ENGINEERING SCIENCES

| The situation of our doctors, and more specifically, their professional integration, was observed on December 1st 2017, one year after the date | Number of PhD holders surveyed | : 50 |
|---|--------------------------------|------|
| of their defense, and on December 1st 2019, three years after their defense. This study was carried out using a questionnaire designed by | Number of respondents 26 | • |
| the Ministry of Higher Education, Research and Innovation (MESRI), which oversees all French universities. | Response rate: | 52% |

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1 - Profile of respondents

All PhD holders

| | Sex | | Nat | ionality | / |
|--------|-----|------|---------|----------|------|
| | Ν | % | | Ν | % |
| Female | 13 | 26% | French | 14 | 28% |
| Male | 37 | 74% | Foreign | 36 | 72% |
| Total | 50 | 100% | Total | 50 | 100% |

| Average = 30 years Standard deviation | | |
|--|----|------|
| | Ν | % |
| Under 24 years | 0 | 0% |
| 24 to 29 years | 31 | 62% |
| 30 to 34 years | 15 | 30% |
| 35 to 39 years | 2 | 4% |
| 40 to 44 years | 2 | 4% |
| 45 years and over | 0 | 0% |
| Total | 50 | 100% |

Age

4

Responding PhD holders

Sex

| Nationality |
|-------------|
|-------------|

| | Ν | % |
|--------|----|------|
| Female | 2 | 8% |
| Male | 24 | 92% |
| Total | 26 | 100% |

| | Ν | % |
|---------|----|------|
| French | 8 | 31% |
| Foreign | 18 | 69% |
| Total | 26 | 100% |

<u>NOTE</u> : The profile of respondents is similar to that of the PhD holders surveyed, with the exception of foreign doctors, who are under-represented among the respondents.

Age

Average = 30 years Standard deviation = 4

| | Ν | % |
|-------------------|----|------|
| Under 24 years | 0 | 0% |
| 24 to 29 years | 14 | 54% |
| 30 to 34 years | 9 | 35% |
| 35 to 39 years | 2 | 8% |
| 40 to 44 years | 1 | 4% |
| 45 years and over | 0 | 0% |
| Total | 26 | 100% |



2 - Studies before PhD program

Last degree(s) awarded before PhD program

| | N | |
|--|----|-----|
| A Master's degree or equivalent | 23 | 88% |
| An Engineering degree | 9 | 35% |
| A degree in Management or Commerce | 0 | 0% |
| A Medical, Pharmacy or Veterinary degree | 0 | 0% |
| A PhD degree other than the last one awarded | 0 | 0% |
| A Validation of Professional Accomplishments (VAP) | 0 | 0% |

Response rate: 100%

Location of last degree received

65% of doctors received their last degree from another institution than UCA.

Numbers



Geographical distribution

| Auvergne-Rhône-Alpes | 11 | 42% |
|--|---------------|----------------|
| lle-de-France | 5 | 19% |
| Other department in mainland France | 5 | 19% |
| Abroad: | 5 | 19% |
| | | |
| Germany | 1 | |
| Nigeria | 1 | |
| Tunisia | 1 | |
| Turkey | 1 | |
| Venezuela | 1 | |
| | Response rate | e: 100% |

Professional status before receiving PhD

- 6 doctors were employed before the PhD program.
- At enrollment, **1** doctor had a job unrelated to his PhD project, and did not hold on to it during the program.

PhD Specialization

| | Female | Male |
|--|--------|------|
| Automation, Signal Processing | - | 2 |
| Materials Engineering | - | 1 |
| Process Engineering, Cold Plasmas | - | 1 |
| Information Technology and Applications | - | 9 |
| Information Technology, Automation | - | 2 |
| Mathematics and Interactions | - | 1 |
| Fluids, Energetics, Thermal, Combustion, Acoustic, Biomechanical, Bioengineering Mechanics | 1 | - |
| Mechanics of Solids, Materials, and Surfaces | - | 4 |
| Mechanics, Energetics, Process Engineering, Civil Engineering | 1 | 4 |

Response rate: 100%

Dual-Degree Thesis Program

3 foreign doctors were awarded a dual-degree. **1** of these doctors had carried out his PhD program in collaboration with a research laboratory in his home country.

Duration of PhD program*



*Deviation between the defense date and the registration date in number of years

Response rate: 100%

PhD funding



Response rate: 100%

Sources of specific funding



PhD funding contract types



Response rate: 92%

Response rate: 92%



Career Plan

| | N | |
|---|----|-----|
| Working in R&D at a company | 12 | 46% |
| Teaching or research in a public or private institution of higher education | 7 | 27% |
| None | 2 | 8% |
| Working in a company excluding R&D | 2 | 8% |
| Career change | 1 | 4% |
| Creating a company | 1 | 4% |
| Working in the public sector excluding research and higher education | 1 | 4% |
| Pursuing or progressing in job held before PhD | 0 | 0% |
| Working in public research | 0 | 0% |
| Other | 0 | 0% |
| Total | 26 | |

Response rate: 100%

CNU Qualification (National Council of Universities)

5 doctors applied for a CNU qualification, of whom 4 received the qualification.

| | Female | Male | Total |
|-----------------------------------|--------|------|-------|
| Received CNU qualification | 1 | 3 | 4 |
| Did not receive CNU qualification | - | 1 | 1 |
| Did not apply | 1 | 19 | 20 |
| Total | 2 | 23 | 25 |

Response rate: 96%

Continuing studies

1 doctor enrolled in a program or a civil service exam after his PhD.

| | Male | Female | Total |
|--|------|--------|-------|
| PhD, Accreditation to Supervise Research (HDR) | 1 | - | 1 |
| Total | 1 | 0 | 1 |



Situation of PhD holders on December 1st 2019



| | Female | Male | Total |
|--------------------------|--------|------|-------|
| Employed | 2 | 24 | 26 |
| Employed after 1/12/2019 | - | - | 0 |
| Job Seeker | - | - | 0 |
| Other | - | - | 0 |
| Total | 2 | 24 | 26 |

 All of the doctors from the class of 2016 were employed on December 1st 2019.

No PhD holder was seeking employment.

KEY FIGURES

| | | Employed PhD holders | | | | | | | |
|-------------------------|-------------------------------------|--------------------------|--|-----------------------------------|-------------------------|--------------------------------|---|---------------------------------------|--|
| | | | Contract Type | | Sec | tor | Other key | r figures | |
| Employment rate ⑴ | <i>Cadre</i> rate ⁽²⁾ | Permanent ⁽³⁾ | Post-doctoral contracts ⁽⁴⁾ | Other contracts ⁽⁵⁾ | Research ⁽⁶⁾ | Not research ⁽⁷⁾ | Median time spent before 1st job ⁽⁸⁾ | Median gross salary ⁽⁸⁾ | |
| 100% | 92% | 69.2% | 7.7% | 23.1% | 46.2% | 53.8% | < 1 month | €2,521 | |

(1) Number of employed PhD holders/ (Number of employed PhD holders + Number of job seeking PhD holders)

(2) Cadres of the following categories: civil servant, administrative, IT, company head, accredited profession, higher education teachers and scientific professions, secondary and school teachers

(3) Number of PhD holders with a stable contract: permanent, civil servant, company head, accredited profession/Number of employed PhD holders

(4) Number of PhD holders with a post-doctoral contract/Number of employed PhD holders

(5) Number of employed PhD holders with another contract: temporary, interim, adjunct position, ATER/Number of employed PhD holders

(6) Number of employed PhD holders in a company working in research/Number of employed PhD holders

(7) Number of employed PhD holders in a company not working in research/Number of employed PhD holders

(8) Median=value separating the top 50% of respondents and the 50% bottom respondents



Doctors 2016 - Survey 2019-2020

Employment held on December 1st 2019

Current employment contract type

| | Female | Male | Total |
|---------------------------------|--------|------|-------|
| Permanent | 1 | 17 | 18 |
| Temporary (excl. post-doctoral) | 1 | 5 | 6 |
| Post-doctoral contract | - | 2 | 2 |
| ATER position | - | - | 0 |
| Adjunct position | - | - | 0 |
| Other | - | - | 0 |
| Total | 2 | 24 | 26 |

Response rate: 100%

Time spent before 1st job



Response rate: 100%

- 31% of PhD holders were still working at the first job obtained after their PhD defense.
- 92.3% of PhD holders worked full-time and 7.7% worked part-time.
- Temporary contracts varied between 6 and 48 months, with the median duration being 18 months.
- **69%** of PhD holders had a stable job.

Method of finding current job



Response rate: 96%

Skills required for job

| | N | |
|--------------------|----|-----|
| International work | 16 | 76% |
| Staff management | 12 | 57% |
| Project management | 10 | 48% |
| Budget management | 3 | 14% |

Response rate: 100%

Method of applying for current job



Response rate: 96%

Functions held at current job

| | Ν | |
|---|----|-----|
| Research and Development | 11 | |
| Consulting, analysis, expertise | 9 | 35% |
| Higher education and research | 6 | 23% |
| Steering or managing projects or teams, public policy | 4 | 15% |
| Research valorization and assistance, innovation | 4 | 15% |
| Teaching (excluding higher education and research) | 3 | 12% |
| Mediation, communication and scientific journalism | 1 | 4% |
| Artistic creation | 0 | 0% |
| Health | 0 | 0% |



Employment by activity sector



Response rate: 100%

Company categories

| individual with an accredited or independent - 0% profession Personse rate: 100% Personse rate: 100% | | N | % | | | |
|--|--|----|------|---------------------|--------|-----|
| A non-profit association or organization 2 8% Nb Public company 1 4% 0 employees 0 Your own - 0% 1-9 employees 2 Other - 0% 1-9 employees 2 International organization or non-EU organization - 0% 10-249 employees 5 Individual with an accredited or independent profession - 0% 250-4,999 employees 12 Profession - 0% - 250-4,999 employees 12 46% Profession - 0% - 27% - 27% | Private company | 17 | 65% | | | |
| Public company14%0 employees0Your own-0%-0%Other-0%1-9 employees2International organization or non-EU organization-0%10-249 employees5International organization or non-EU organization-0%19%46%5,000 employees727%27%Individual with an accredited or independent profession-0%26 | Civil service | 6 | 23% | Company size | | |
| Your own - 0% 1-9 employees 2 8% Other - 0% 10-249 employees 5 19% International organization or non-EU organization - 0% 250-4,999 employees 12 46% Individual with an accredited or independent profession - 0% 7 27% | A non-profit association or organization | 2 | 8% | | Nb | |
| Other - 0% International organization or non-EU - 0% organization - 0% Individual with an accredited or independent profession - 0% | Public company | 1 | 4% | 0 employees | 0 | 0% |
| International organization or non-EU organization - 0% Individual with an accredited or independent profession - 0% Personse rate: 100% | Your own | - | 0% | 1-9 employees | 2 | 8% |
| individual with an accredited or independent - 0% profession Profe | Other | - | 0% | 10-249 employees | 5 | 19% |
| organization Individual with an accredited or independent - 0% Profession 27 27% Total 26 | International organization or non-EU | _ | 0% | 250-4,999 employees | 12 | 46% |
| profession Personse rete: 100% | organization | _ | 078 | >5,000 employees | 7 | 27% |
| Besonse rate: 100% | • | _ | 0% | Total | 26 | |
| | profession | | | Pooponoo roto | . 100% | |
| lotal 26 100% | Total | 26 | 100% | Response rate: 100% | | |

Response rate: 100%

Employment status

| | Female | Male | Total |
|--|--------|------|-------|
| Higher education teacher, scientific profession | 1 | 6 | 7 |
| Secondary school teacher | 1 | 1 | 2 |
| School teacher, instructor, or equivalent | - | - | 0 |
| Category A civil servant | - | - | 0 |
| Company head, retailer, or equivalent | - | - | 0 |
| Engineer or company technical cadre | - | 14 | 14 |
| Administrative or commercial cadre | - | 1 | 1 |
| Accredited profession, legal and technical | - | - | 0 |
| Accredited profession, medical | - | - | 0 |
| Salaried employee | - | - | 0 |
| Information, arts and entertainment profession | - | - | 0 |
| Intermediate profession, administrative and commercial | - | 2 | 2 |
| Total | 2 | 24 | 26 |

Salaries of PhD holders (excluding bonuses)

48% of doctors were satisfied with their salary.



| | | Total |
|---|---------|--------|
| | Average | €2,608 |
| I | Min | €1,797 |
| | Max | €3,567 |
| | Median | €2,521 |

The gross monthly salary of PhD holders (excluding bonuses) varied between €1,797 and €3,567. The median gross salary was €2,521*.

Salaries are calculated based on full-time employment. The salaries of PhD holders working abroad were not taken into account.

Bonuses

4 PhD holders specified the annual gross amount of the bonuses they received. These bonuses varied between €170 and €4,000, with the median amount being €1,750.

Location of employment

Numbers



Geographical distribution of jobs

| Auvergne-Rhône-Alpes | 7 | 27% |
|--|---|-----|
| Ile-de-France | 5 | 19% |
| Other department in mainland France | 9 | 35% |
| Overseas France | 0 | 0% |
| Abroad: | 5 | 19% |

| Germany | 2 |
|-------------|---|
| China | 1 |
| Nigeria | 1 |
| Switzerland | 1 |



| | | Female | Male | Total |
|----------------------|---|------------|------|-------|
| | Researcher | 0 | 2 | 2 |
| | Research and Development Engineer | 0 | 3 | 3 |
| | Teacher | 0 | 2 | 2 |
| | University Lecturer and Researcher | 1 | 1 | 2 |
| | Civil Engineer | 0 | 2 | 2 |
| | Software Engineer | 0 | 2 | 2 |
| | Secondary School Teacher | 1 | 1 | 2 |
| Cardua ia h | Systems Administrator | 0 | 1 | 1 |
| <i>Cadre</i> job | Analyst | 0 | 1 | 1 |
| | Research and Development Project Manage | r 0 | 1 | 1 |
| | Consultant | 0 | 1 | 1 |
| | University Instructor | 0 | 1 | 1 |
| | Engineer | 0 | 1 | 1 |
| | Fluids Engineer | 0 | 1 | 1 |
| | Robotics Engineer | 0 | 1 | 1 |
| | Data Manager | 0 | 1 | 1 |
| Non cadro job | Development Engineer | 0 | 1 | 1 |
| Non <i>cadre</i> job | Systems Engineer | 0 | 1 | 1 |
| Total | | 2 | 24 | 26 |

Job Satisfaction

80% of doctors were satisfied with their job in general.

| | Very satisfied | Satisfied | Dissatisfied | Very dissatisfied |
|--|-------------------|-----------|--------------|----------------------|
| General satisfaction with current professional situation | 7 | 13 | 2 | 3 |
| Satisfaction with prospective career development opportunities | 3 | 11 | 7 | 4 |
| Satisfaction with salary | 2 | 10 | 8 | 5 |
| Satisfaction with avenues opened by job | 5 | 11 | 5 | 4 |
| Satisfaction with appropriateness of job to PhD | 5 | 12 | 5 | 2 |
| General satisfaction with current professional situation | 28% | | 52% | 8% 12% |
| Satisfaction with prospective career development opportunities | 12% | 44% | 28% | 16% |
| Satisfaction with salary | 8% | 40% | 32% | 20% |
| Satisfaction with avenues opened by job | 20% | 44% | 20% | 16% |
| Satisfaction with appropriateness of job to PhD | 21% | 50% | | 21% 8% |

Response rate: 96%

52% of doctors declared that a PhD was required to perform their current job and **71%** of doctors were satisfied with the appropriateness of the job to the PhD.



5 - Developments in doctors' situations **1** year and **3** years after receiving their degree

Situations on December 1st 2017 and 2019

| | Emp | Employed | | Job Seeker | | Other | | Total | |
|-------------------------|-----|----------|---|---------------|---|-------|----|-------|--|
| | N | % | N | % | N | % | N | % | |
| Situation on 01/12/2017 | 23 | 88% | 1 | 4% | 2 | 8% | 26 | 100% | |
| Situation on 01/12/2019 | 26 | 100% | - | 0% | - | 0% | 26 | 100% | |



Development in doctors' situations after 1 year and after 3 years



88% of doctors employed on 01/12/2019 were already employed on 01/12/2017 and **4%** of doctors were seeking work on 01/12/2017.

GLOSSARY

ATER: Attaché Temporaire d'Enseignement et de Recherche (Temporary teaching and research assistant)

CNU: National Council of Universities to become an associate or full professor

CIFRE: Work placement agreement placing a PhD student in a company

Dual-Degree Thesis Program: A dual-degree thesis is a program to promote global engagement for PhD students and to develop scientific collaboration between foreign and French research teams.

Doctoral contract: The doctoral contract is the main type of funding granted to PhD students. The doctoral contract is open to all PhD students who have been enrolled for less than six months in their first year, with no age requirement.

Post-doctoral contract: A post-doctoral contract is a temporary work contract in the public and private research sphere, in France or abroad.

PhD degree: The PhD is the highest degree in higher education, training students for research by conducting research. In this respect, it is considered a professional research experience. It leads to the creation of new knowledge.

ED: Doctoral school

ED LSHS: Doctoral School of LITERATURE, HUMAN AND SOCIAL SCIENCES

ED SVSAE: Doctoral School of LIFE, HEALTH, AGRONOMY, AND ENVIRONMENTAL SCIENCES

ED SEJPG: Doctoral School of ECONOMIC, LAW, POLITICAL AND MANAGEMENT SCIENCES

ED SF: Doctoral School of FUNDAMENTAL SCIENCES

ED SPI: Doctoral School of ENGINEERING SCIENCES

MCU: Maître de Conférence Universitaire (Associate Professor)