**SKILLS PORTFOLIO**

Based on a model proposed by the Doctoral School ABIES

**Professional Project**

**What are you planning to become once you’ve finished your thesis?**

At the moment you’re perhaps more worried about advancing with your research project… “We’ll see later.“ Keep in mind that “later” will arrive sooner than you think, and anticipating the future can help you envisage unimagined posts and aid you in mobilizing your full potential to move into the career you want. Even if the people guiding you can help you for your future professional insertion, it still remains basically up to you. A project must be designed, sometimes slowly. It will develop and change as you go along, and reaching a satisfying goal requires a good deal of anticipation. It is therefore important that you start thinking about what form you want your professional project to take from the beginning of your thesis so that you can clarify your personal project, enrich it, and progressively develop it throughout your period of learning through research.

1. Why did you decide to do a thesis?

2. What activities have you found the most and least pleasing since starting your thesis?

3. What are you expecting of your future profession? (e.g. job security, pay scale, flexible hours, level of responsibility, social status, diversity and multiplicity of tasks, social responsibility, specialisation…)

How would you rank these different criteria in terms of their importance to you?

4. What sector(s) would you like to work in once you’ve finished your PhD?

Public ☐ Private ☐

5. Are you planning on geographical mobility (national or international)?

6. What function(s) would you like to have? (researcher, teaching and research, R&D project manager in a private company, consultant, expert, research organization, scientific communication or journalism, technical sales engineer, entrepreneur, etc.)

7. Are there one or more scientific field(s) or branch(es) in which you hope to work (e.g. environment, biotechnology, medical research, agronomy, food industry, etc.)?

8. What types of organizations do you hope to work for? (public research organization, University or Engineering school, Governmental Agency (i.e. ANSES, ADEME, etc.), international group or organization, large company, very small, small or medium-sized company, start-up, regional office, design office, association, NGO, etc.)

9. Up to now, have done anything for preparing your professional future?

* job information (internet, specialized press, job offers)
* “professional insertion” training during your doctoral studies
* participation in recruitment forums
* preparing your CV
* building/maintaining a network of contacts in French or foreign laboratories
* seeking contact and support from your supervisor’s network of contacts
* contacts with the professional world: professional exhibitions, meetings with people working in companies, participation in meetings or contact days between “research” and “companies”
* in-company trainings or other activities
* CRIP meeting
* Other (specify)

How did you profit from these activities?

**Self-assessment**

**Your professional project**

Currently you consider that your professional project is:
clear and well-defined☐ in the process of being defined☐ poorly defined☐ obscure ☐

Please describe briefly, in a few lines, your professional project.

What concrete action do you plan to take to contribute to building the future you envisage?

**Designing a research project**

**Did you participate in designing your thesis subject?** What was your contribution? Have you had the opportunity to follow, directly or indirectly, the design of any other research projects?

Indeed, designing a feasible and novel research project is an essential skill for a researcher… Designing such a project includes formulating a research question on the basis of existing bibliographic knowledge, designing experimental prototypes, identifying the human and material resources required to run the project (seek financing, identify potential public and/or private partners), being able to schedule the work, the milestones and final expectations.

The questions below will help you describe and assess your level of skill for such work.

1. Had the subject already been defined before you arrived?

Yes, totally ☐ Yes, partially ☐ Hardly at all ☐ Not at all ☐

2. If it had been defined, how did you appropriate the subject?

3. If it had not been defined, how did you participate in its construction or clarification (if it was partially defined)?

4. (With or without your supervisor) have you considered ethical issues of your research project, for example, issues about animal experimentation, about how you credit the work of collaborators including past or current doctoral candidates, post-docs or interns?

5. (With or without your supervisor) have you carried out an assessment of success and risk factors for your research project? Have you made a hierarchy of risks (in order of likelihood or of gravity)?

For each kind of risk, have you thought up preventative or corrective measures? Please give (precise) examples.

6. Have you contributed to modifying (influencing / reorienting) your thesis subject during your doctorate period? Specify when, what aspects, with whom and why?

7. What have been the constraints you had to confront? Have you run into any particular difficulties? How did you overcome them?

8. Could you assess and/or defend the novel aspect(s) of your research subject? Explain.

9. Could you appraise and/or defend the feasibility of your thesis project? Explain.

10. Could you assess and/or discuss the possible benefits brought about by your research (scientific, industrial, environmental, sanitary impacts)? Explain.

11. Did you identify the bibliographic fields to work on in exploring your research subject? How did you go about it? What lessons did you learn?

12. Have you had to mobilize your imagination and curiosity to progress with your project? At what moment(s) and on what subject(s)?

13. Have you had the opportunity to participate in designing other research projects, either directly or indirectly? (writing and submitting projects and funding requests, etc.)?

14. What lessons can you draw concerning the construction/design of a research project?

**Self-assessment**

**Do you feel capable of designing a research project?**

Your self-assessment:
I feel myself to be competent and autonomous. ☐
I feel I’m competent if I have help. ☐
I do not yet feel competent but I am progressing. ☐
I do not feel competent and I do not believe I will make it. ☐

The strong and weak points I’ve identified.

What concrete actions do you plan to implement to reinforce your skills in this field?

**Managing a research project**

**You actively participate in the running of your thesis project**: setting up and following experimental protocols; gathering, archiving and treating data; interpreting results; carrying out bibliographic research and confronting your results with those of your peers; organizing / establishing partnerships (public and/or private); perhaps reorienting the project, etc.

Actively participating in the running of your thesis is a skill central to a young researcher’s work. In no way exhaustive, the following questions will help you describe your project management skills. Focus notably on specifying your personal contribution(s), above and beyond the supervision and recommendations of your director(s).

1. What has been, specifically, your contribution to running the thesis project?

2. What have been the main steps of the project and your level of autonomy in carrying each of them out?

3. Did you define a schedule? How have you organized your time?

4. Do you have a method for discovering scientific, technical or technological developments in your field? How do you go about it? What lessons have you learned from it?

5. What are the main modelling, experimentation, data gathering and analysis techniques you have used?

6. Have you had the opportunity to work with technicians, engineers and/or trainees on your project? What lessons have you learned from such work?

7. Have you had to handle difficulties, obstacles or surprises? What solutions did you bring to solve them, get over them or get around them?

8. Have you been faced with issues of scientific integrity when your experiments do not work or when your work fails to provide the expected results? Have you discussed scientific integrity with your supervisor or other mentor?

9. During the running of the project, have there been modifications of the goals, of the activities and/or the experiments initially planned.

10. How has project supervision been handled? What types of meetings have you had (regular, reports at the end of each phase, “crisis” meetings)? Whom have you met with and at what frequency? What has your contribution in preparing such meetings been?

11. Have you taken advantage of the issues raised and the recommendations formulated during such meetings for your work? In what way(s)?

12. Have these modes of supervision (the meetings) been sufficient and efficient? If not, how have you compensated for their insufficiencies?

13. Have you used planning tools (i.e. GANNT diagrams)?

14. Overall, have you managed to meet the deadlines and costing estimates initially foreseen? How did you go about it?

15. Have you sought help? On what aspects? When? From whom?

16. Have you developed any technical or technological innovations?

17. Have you participated in the running of other research project(s)? At what level(s)?

18. What have you learned from your experience of managing a research project?

**Self-assessment**

**Do you feel you are competent at managing a research project?**

Your self-assessment:
I feel myself to be competent and autonomous ☐
I feel I’m competent if I have help. ☐
I do not yet feel competent but I am progressing. ☐
I do not feel competent and I do not believe I will make it. ☐

The strong and weak points I’ve identified:

What concrete actions do you plan to implement to reinforce your skills in this area?

**Presenting your research results**

**During your thesis period you should present your research results** to different scientific and/or professional communities. These presentations can take a wide range of forms and address a variety of communities: first of all, scientific and technological communities; socio-economic communities, including the public sector; students, trainees, technicians and auditors from socio-economic sectors; the media and a variety of publics unfamiliar with the field in question. The following questions will lead you to better describe and assess your competence in making your interesting and useful results public.

Scientific communities:

1. Have you prepared and presented posters and/or oral presentations at national or international conferences? Where, when and for whom?

2. What have you learned from participating in such events? How has it enriched your own research? What feedback have you received concerning your participation?

3. Have you participated in writing one or more scientific publications for peer-reviewed journals? What was your exact contribution?

4. Have you discussed the ethical issues of how to determine author lists and order of authorship with your supervisor or other mentor? Is this issue clear to you?

5. Have you discussed the ethical issues of appropriate acknowledgment of technical help, collaboration or financial support in publications or other kinds of presentations of your work? Is this issue clear to you?

6. What difficulties have you had getting published? How did you overcome them and what lessons did you learn?

Making research results public for socio-economic communities (including the public sector)

1. Have you made your results public to the professional community? How and where? What impact do you think your work could have on the sector(s) in question?

2. Have you contributed technical or technological innovations to the sector(s) in question? Have you contributed to any patents or other forms of intellectual property? If so, please describe your contribution.

3. Have you done any consulting (collective or individual) for socio-economic actors or public deciders? If so, please describe your contribution.

Have you presented your research results to students, trainees, technicians and/or auditors from socio-economic sectors?

Have you participated in technical or technological developments leading to training sessions for students, trainees, technicians or other public or private research personnel? If so, please describe how and with whom you carried out such skills and knowledge transfer.

Presenting research results to a non-specialist public or to the media

1. Have you contributed to enriching and diffusing written scientific and/or technical culture (articles in non-specialized journals, in dailies or weeklies)?

2. Have you participated in public discussions or debates (e.g. science cafés) or been interviewed for radio or television?

3. Have you taken part in presenting scientific culture to a general public (science festivals, European researchers’ night, school visits, etc.)?

4. What have you learned from presenting research results to non-specialists?

**Self-assessment**

**Do you feel yourself competent at presenting results of a research project?**

Your self-assessment:
I feel myself to be competent and autonomous. ☐
I feel I’m competent if I have help. ☐
I do not yet feel competent but I am progressing. ☐
I do not feel competent and I do not believe I will make it. ☐

The strong and weak points I’ve identified.

What concrete actions do you plan to implement to reinforce your skills in this area?

**Transverse skills complementary to scientific and technical skills**

**You have certainly done much more than first springs to mind!** You have spent most of your time pushing your thesis project forward. You have, however, also been carried out other activities which have made it possible for you to develop other skills. Can you clearly identify such skills and give them added value?

Indeed, beyond the scientific and technical skills linked directly to the research project, a doctoral candidate acquires complementary transverse skills that are useful for future jobs. The following questions can help you catalogue these other activities and assess the skills that you have begun to develop. For each type of activity that you have carried out (cf. indicative list below), please supply descriptive information as requested in the following table. You can simplify your work by copying and pasting the table for each field of scientific expertise you want to mention.

**List of activities:**

* Teaching
* Managing and/or recruiting (trainees, technicians, etc.) Managing budgets, purchasing material, etc.
* Building and managing networks of researchers or other professional networks; Organising and running meetings
* Communicating, by writing or orally, scientific or other material
* Organising your own work and that of your team
* Managing quality control in a laboratory or working environment
* Participating in democratic laboratory life (laboratory councils and other such bodies) Participating in campus student life (student associations, etc.)
* Other activities

|  |
| --- |
| **Activity** |
|  |
| When, within what framework(s), and with whom did you carry out this activity? |
|  |
| What qualities did you mobilize for this activity (e.g. autonomy, curiosity, diplomacy, tenacity, adaptability, etc.)? |
|  |
| What have you learned from the experience? |
|  |

Please do not hesitate to duplicate the format and fill out a table for each activity. Even if you do not fully fill it in at the current time, it is a useful exercise and will give you material for helping you recognise and organise your skills.

**Self-assessment**

**Do you feel yourself competent at presenting a research project?**

Your self-assessment: How competent do you feel in this activity?

I feel myself to be competent and autonomous. ☐
I feel I’m competent if I have help. ☐
I do not yet feel competent but I am progressing. ☐
I do not feel competent and I do not believe I will make it. ☐

The strong and weak points I’ve identified.

What concrete actions do you plan to implement to reinforce your skills in this area?

**Fields of scientific or technical skills**

**Working on your thesis has given you the opportunity to discover and/or enhance your scientific knowledge** in numerous fields (e.g. evolutionary theory, cellular imagery, statistical analyses, bioinformatics, qRTPCR, programming languages, in vitro culture methods, phylogenetics analyses, immunoprecipitation…) but don’t forget additional skills such as communication ability, bibliographic skills, foreign languages…). You are certainly aware of their advantages and limits. Furthermore, you have become acquainted with a variety of professional worlds (academics, researchers, R&D of biotech or agricultural companies, etc.).

Please fill in the table below for each field of scientific or technical expertise you have developed during your thesis work (and/or Master’s research). Once again, you can simplify your work by copying and pasting the table for each field of scientific expertise you want to mention. Remember: you can gain ‘scientific expertise’ without formally becoming an expert. Within the framework of this reflective document, you are the only judge of the expertise you’ve acquired.

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| --- |
| Scientific expertise or Technical area  |
|  |
| Identify the field of scientific expertise: Give details where you think useful. |
|  |
| Level: basic knowledge or beginner / advanced knowledge or confirmed user / expert |
|  |
| How did you gain this skill (training course, practical experience, trained by your supervisor or an other expert, from reading articles …) |
|  |
| Follow-up: How do you want to progress with this? What will you do to advance further? |
|  |

Please think about bringing an up to date list of the training courses you have followed when you re-register for your next year, if you have not already done this.