

## Postdoctoral professional career development: Guidelines and useful resources<sup>1</sup>

This document, created for postdoctoral researchers, provides information on the eight main points from the *self-assessment questionnaire*.

Explanations of these main points are followed by lists of available resources at UNIL and elsewhere.

### 1. Publication

Publication of research results is clearly an important aspect of the researcher's work. At the postdoctoral level, it is expected that you are familiar with the article submission process and adhere to scientific publication standards within your field of studies. You will already have had experience in scientific writing in a variety of contexts (scientific articles/popular science works).

It is important to utilize opportunities to serve as a reviewer within your discipline. Your reviews of other's work will better familiarize you with specific criteria for publication. In addition, acting as a peer reviewer can be a way to expand your network of contacts.

UNIL workshop (en):

- *Academic writing skills*, Language center: <http://www.unil.ch/cdl>

Online resources:

- Scientific writing online support (en): <http://www.monash.edu/lls/llonline/>
- How to write a scientific paper (fr) : [http://www.gp3a.auf.org/printarticle.php3?id\\_article=79](http://www.gp3a.auf.org/printarticle.php3?id_article=79)

Publications:

- Lichtfouse, E. (2009). *Rédiger pour être publié! Conseils pratiques pour les scientifiques*. Paris: Springer-Verlag.
- Kendall-Tackett, K. A. (2007). *How to write for a general audience: A guide for academics who want to share their knowledge with the world and have fun doing it*. Washington, DC : American Psychological.

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<sup>1</sup> Based on The NPA postdoctoral Core Competencies, prepared by the NPA Core Competencies Committee (2007-2009) : <http://www.nationalpostdoc.org/competencies> et Hobin, J.A., Fuhrmann, C.N., Lindstaedt, B., & Clifford, P. (2012). *So you Think You Have Skills*. My IDP Science careers: [http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2012\\_09\\_21/credit.a1200107](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_09_21/credit.a1200107)

## 2. Oral communication skills and Conferences

Within all professional environments, the ability to communicate and to transmit your knowledge and ideas is indispensable. Postdoctoral positions offer many opportunities to develop your communication skills (presentations at conferences, teaching, group seminars, presentations to large audiences, communication with the media). Practice adapting your speaking to a variety of audiences.

Persuasive discussion of the merits of your research, aimed at a more general audience, requires competencies different from those that are used in scientific presentations. Opt for more concrete and direct language, rather than technical and scientific terminology. Highlight main concepts, and offer specific examples adapted to the target audience. Professional communication competencies (including nonverbal communication control, or body language) are valuable for communication, and should be practiced.

Workshops:

- *Conference and seminar skills*, Language center (en): <http://www.unil.ch/cdl>
- CEP workshop on communications (fr) : <http://www.cep.vd.ch/>
- REGARD courses for young female scientists (fr/en) : <http://www.unifr.ch/regard/>

Online resources:

- UNIL "Centre de soutien à l'enseignement" (CSE) documents on communication (fr): <http://www.unil.ch/cse/home/menuguid/ressources-et-liens.html>
- Tips for Preparing and Delivering Scientific Talks and Using Visual Aids (en): [http://www.tos.org/pdfs/sci\\_speaking.pdf](http://www.tos.org/pdfs/sci_speaking.pdf)

Publications:

- Cribb, J., & Hartomo, T. S. (2002). *Sharing knowledge: A guide to effective scientific communication*. Collingwood, Australia: CSIRO Publishing.
- Pestel, E. & Borg, J. (2009). *This body that speaks for you: improve your personal and professional impact*. Montreuil, France: Pearson.

## 3. Research project writing (fundraising and scholarships)

If you envision yourself in an academic career, research project writing and fundraising can be as important as your scientific publications and should be highlighted in your CV (even unsuccessful attempts). These efforts develop project management competencies: thinking creatively, presenting innovative solutions, crafting convincing arguments for your ideas, planning long-term projects, developing budgets, building a team and allocating tasks.

At this stage of your career, you should be aware of the various sources of potential funding for your research (FNS, European funds, foundations, etc.).

UNIL resources (see «Research and project development» on the website [www.unil.ch/researcher](http://www.unil.ch/researcher)) (fr/en):

- Support measures from the Direction of UNIL (Teaching Release)
- Research Consultants in some faculties
- Grant Office, Unicentre, Research Dicastery
- SNSF Research Commission (Unicenter)
- EUresearch
- PACTT (**P**owering **A**cademia-industry **C**ollaborations and **T**echnology **T**ransfer)

#### 4. Teaching and leadership

In your scientific career, you will likely teach and supervise students and young researchers. This role fosters the development of competencies valued in several types of careers, particularly in management positions: public speaking, team management, cooperation with people of diverse backgrounds, conflict management, negotiations, and team motivation.

Acting as a leader, and seeking the best way to transmit the skills and knowledge of others leads to new awareness of your own practices. During your career, in fact, you have the chance to be a learner as well as a teacher.

*Workshops:*

- *Supervising doctoral students, «Dicastère Relève», UNIL (fr):*  
[www.unil.ch/researcher](http://www.unil.ch/researcher)
- *CSE workshops, UNIL (fr) :* <http://www.unil.ch/cse>
- *EPIGEUM online course, Supervising doctoral studies (en):*  
<https://researchskills.epigeum.com/>
- *CEP workshop on negotiations and conflict management (fr):*  
<http://www.cep.vd.ch/>

#### 5. Knowledge and competencies

The position of researcher allows you not only to develop certain knowledge in a specific field but also to learn wider skills, which will be useful in different areas. Many of these skills have been already described or mentioned under other main points in this document. Here, then, we will focus on scientific integrity and team management.

All researchers should respect the rules of good research practice. They should be aware of copyrights and intellectual property, and should respect publication standards and data sharing. It is very important they rigorously keep track of their scientific work. As a mentor for young researchers, it is also expected that the postdoc will train the next generation of researchers to follow these rules and quality standards.

It is likely that you will manage a project team, so it is important to develop your management skills and team leadership abilities. Know how to negotiate and

handle difficult relationships or conflict. Learn to motivate the team towards goals you have set.

No matter which career path you choose, these management skills will be useful for you in difficult situations and negotiations (e.g. defense of your project, salary and benefits negotiations, relationship problems with colleagues); so it is important to improve these skills.

UNIL directives (fr):

- Directive 4.2. "Intégrité scientifique dans le domaine de la recherche et procédure à suivre en cas de manquement à l'intégrité."  
<http://www.unil.ch/interne/page44629.html>
- Directive 0.3. "Code de déontologie en matière d'emprunts, de citations et d'exploitation de sources diverses." <http://www.unil.ch/interne/page44629.html>

Workshops (en):

- Workshops proposed by REGARD program: <http://www.unifr.ch/regard/>
- Professional Skills for Research Leaders, EPIGEUM online course: <https://researchskills.epigeum.com/online-courses?section=75>
- Transferable Skills, EPIGEUM online course: <https://researchskills.epigeum.com/online-courses?section=5>
- Research Integrity, EPIGEUM online course: <https://researchskills.epigeum.com/online-courses?section=45>

Online resources:

- Competency guidelines, UNIL Doctors in Arts (fr): <http://www.unil.ch/lettres/fr/home/menuinst/doctorat---assistanat/referentiel-de-competences.html>
- Professional profile of doctors (fr): <http://www.mydocpro.org/fr>
- Postdocs competencies guidelines (en): <http://nationalpostdoc.org/competencies>
- Guidelines in case of conflicts (en): Self-Help Options for Dealing with Problems in Supervision, Auckland University: <https://www.auckland.ac.nz/en/for/current-students/cs-current-pg/cs-current-pg-policies/cs-pg-supervision-tools.html>

## 6. Collaboration and networking

Networking is excellent as a means of finding a job in an academic or non-academic field. It presents the potential for exposure to new perspectives and can foster new collaborations. It's important to make the most of available opportunities in our current position (seminars, cocktail events, conferences, public courses, etc.) to network.

Also pay attention to your online image and virtual network. Regularly update your personal web page and scientific profile in professional and scientific social networks.

Participation in professional networks, scientific societies and community associations allows you to meet people and keeps you up to date with opportunities in your field.

UNIL network:

- Intermediary Staff Association, ACIDUL: [www.unil.ch/acidul](http://www.unil.ch/acidul)
- Natural science Postdoc Association: <http://www.asso-unil.ch/apns/>

Swiss Academic disciplinary associations:

- Swiss Academy of Humanities and Social Sciences (fr/en): <http://www.sagw.ch/en>
- Swiss Academy of Medical Sciences (fr/en): <http://www.samw.ch/en>
- Swiss Academy of Sciences: <http://www.naturalsciences.ch>
- Swiss Academies of Arts and Sciences (fr/en): <http://www.akademien-schweiz.ch/en>
- Swiss Psychological Society (fr/en): <http://www.ssp-sgp.ch>

Online Professional social networks:

- <https://www.linkedin.com>
- <http://www.researchgate.net/>
- <http://www.academia.edu/>

Non-academic social networks:

- <http://www.bpw.ch/>
- <http://www.rezonance.ch/ft/>
- <https://www.rotary.ch>
- <http://www.lionsclubs.org/FR/>

Publications on networking:

- Ferrazzi, K., & Raz, T. (2005). *Never eat alone and other secrets to success: One relationship at a time*. New York: Currency Doubleday.
- Baber, A. & Waymond, L. (2007). *Make your Contacts Count: Networking Know-how for Business And Career Success*. New York: Amacom Press.
- Zack, D. (2010). *Networking for People Who Hate Networking*. San Francisco: Berrett-Koehler Publishers.

## 7. Institutional, scientific and social involvement

Your institutional involvement as well as your integration within a team or a department will be evaluated in an academic application. Within your institution, it is important to be able to show your ability to forge links with other research groups, to maintain good contacts with your colleagues and to allow young researchers to benefit from your network. Your current experience should allow you to demonstrate your integration skills to a future academic or non-academic employer. The depth of your integration is assessed, in part, by your mastery of the host institution's language, institutional participation (in commissions/committees), scientific engagement (associations, conferences, journal publisher or expert positions) and social involvement (public courses, work at the university and conferences to a large audience). For the academic institutions you are interested in, these criteria should appear in the directives on appointment, promotion and assessment (at UNIL see e.g. Directive 1.4

“prétitularisation conditionnelle: procédure d’évaluation ”,  
<http://www.unil.ch/interne/page44629.html>).

## 8. Careers: mid-term and long-term objectives

The first questions helped you analyze and assess your current position to determine if it meets your expectations, and decide how motivated you are to continue along your current path.

The next questions will help you consider different career opportunities and that you may be offered. At this stage of your professional life, you should know the available tools and resources for career research (see resources listed below). Even if you are not currently looking for a job, you should know how to create a competitive, relevant application, and you should keep your CV up to date. It should be clear whether your CV is “academic” or “non-academic.” If you wish to pursue an academic career, an excellent way to familiarize yourself with academic requirements and selection criteria is to take part in Nominating Commission activity or attend a trial lecture within your discipline.

For further perspectives on career considerations, please see the appended document “Analyze your values and make a decision on your career.”

### Workshops

- Workshops hosted by “Dicastère Relève” for both academic and non-academic career preparation (fr/en) : [www.unil.ch/researcher](http://www.unil.ch/researcher)
- Workshops hosted by the REGARD Program (fr/en) : <http://www.unifr.ch/regard>

### Online resources

- Competency evaluation (en): <http://myidp.sciencecareers.org/>
- Doctors’ professional profile (fr): <http://www.mydocpro.org/fr>
- Employment support for doctors (fr): <http://www.intelligence.fr/>
- UNIL Researcher website, Career page (fr/en): [www.unil.ch/researcher](http://www.unil.ch/researcher)
- American Association for the Advancement of Science (en): <http://sciencecareers.sciencemag.org/>
- Vitae, employment search for researchers in the USA and worldwide (en): <https://chroniclevitae.com/>

### Directives and UNIL Vademecum (fr)

- Directives of the Director 1.6 “Maîtres assistants: procédure d’engagement durée du mandat et stabilisation”. <http://www.unil.ch/interne/page44629.html>
- Directives of the Director 1.4 “Prétitularisation conditionnelle (“Tenure track”): procédure d’évaluation”. <http://www.unil.ch/interne/page44629.html>
- Vademecum for the nomination commissions in FBM : <http://www.unil.ch/fbm/fr/home/menuinst/la-releve-academique/vademecum-pour-les-pdts-des.html>

### Academic Publications:

- Götz, T. (2013). *Professor für Anfänger. Tipps für (angehende) Professorinnen und Professoren*. Konstanz: Universität Konstanz.
- Vick, J. M., & Furlong, J. S. (2008). *The academic job search handbook* (4th ed). Philadelphia: University of Pennsylvania Press.
- Barker, K. (2002). *At the Helm: A Laboratory Navigator*. New York: Cold Spring Harbor Laboratory Press.

#### Non-academic Publications:

- Robbins-Roth, C. (1998). *Alternative Careers in Science. Leaving the Ivory Tower*. San Diego: Academic Press.
- Kreeger, K. Y. (1999). *Guide to Non-traditional Careers in Science*. London: Taylor & Francis Group.
- Basalla, S., & Debelius, M. (2014). *"So what are you going to do with that?": finding careers outside academia*. Chicago : University of Chicago Press.

## **Analyze your values and make decisions on your career**

The first step of the self-assessment questionnaire focused on both acquired skills and skills that should be improved. These are skills derived directly from your university education or indirectly from your studies of scientific methodology. As your current position may not be stable, it is important to take into account your short-term and mid-term objectives. Find a moment for reflection on the next step in your career. Ask yourself what is really important for you; what brings additional value to your everyday work. Finally, make some decisions regarding your mid-term and long-term job opportunities.

### **1. Professional values**

In order to be satisfied with your career, your skills, interests and professional values should be relevant to your career choice. You may consider factors such as, the level of income, organization of your working time and the travel distance to your workplace. Intrinsically compensated values which you might consider are prestige, the satisfaction of being an expert, your desire for discovery, and a chance to make a positive impact in your chosen field. Naturally, your values will change at different stages of your life: be honest with yourself as you try to define your values.

The academic environment tends to reinforce a certain culture of self-sacrifice, so a researcher may be reluctant to admit their desires for recognition, status, prestige or potential profits. It is necessary to differentiate between the things we really want and the things we think we should want. Sometimes it can be helpful to make a list of your values, then step back from it and rank them in priority order.

Without finding this true perspective, there is the risk of making a career choice based on the things you feel you should value instead of the things that are truly



important to you. You could find yourself in an unsatisfactory and stressful situation. Most likely, a perfect job that aligns with your skills, values, passions and interests does not exist or is quite rare, but this is absolutely normal. Keep in mind that certain values can be fulfilled through activities outside of your job.

## 2. Career decisions

There is a risk of making important decisions regarding the direction of your career based on inaccurate or incomplete information. According to Lindstaedt et al. (2013a), at this stage there are two crucial mistakes to avoid. One common error is to rely solely on the advice of friends and colleagues, advice which may be biased. Another mistake is to make a decision based on a quick and superficial search, a search which does not explore in depth the available career opportunities.

Collecting information on your career can require as much effort as you put into your science research. As a researcher, you are qualified to collect and analyze data, so be as critical and objective in your career research or job search as you are in your scientific work. In a systematic manner, collect data from all available resources, organize it, then analyze it.

There are many tools to help you to make decisions. For example, one simple method is to make a list of advantages and disadvantages. Ultimately, though, you may prefer just to reflect on your options until the best way forward is apparent. No matter what you choose, don't rush your decision. Take your time to assimilate and understand the information you have collected before you start your career.

### References and resources

- Esser, T. (2002). *The Venture Cafe: Secrets, Strategies, and Stories from America's High-Tech Entrepreneurs*. New York: Warner Books.
- Holden, G., Barker, K., Meenaghan, T., & Rosenberg, G. (1999). Research self-efficacy: A new possibility for educational outcomes assessment. *Journal of Social Work Education*, 35, 463-476.
- Holden, G., Rosenberg, G., & Barker, K. (2005). Bibliometrics: A potential decision making aid in hiring, reappointment, tenure and promotion decisions. *Social work in health care*, 41, 67-92.
- Hume, K. (2010). *Surviving Your Academic Job Hunt: Advice for Humanities PhDs*. New York : Palgrave Macmillan.
- Lindstaedt, B., Fuhrmann, C.N., Hobin, J.A, & Clifford, P.S. (2013a). Making Sense of Your Self-Assessment. *My IDP Science careers* (online) :
- [http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2013\\_03\\_20/caredit.a1300047](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2013_03_20/caredit.a1300047)
- Lindstaedt, B., Fuhrmann, C.N., Hobin, J.A., & Clifford, P.S. (2013b). Making Evidence-Based Career Decisions. *My IDP Science careers* (online) :
- [http://sciencecareers.sciencemag.org/career\\_magazine/previous\\_issues/articles/2013\\_06\\_17/caredit.a1300125](http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2013_06_17/caredit.a1300125)
- Other reference works suggested by the *Career Services Center* de the University of California : [http://career.ucsd.edu/\\_files/EspGradBooks.pdf](http://career.ucsd.edu/_files/EspGradBooks.pdf)