



BEYOND

the doctorate

GUIDE FOR ADVANCED DOCTORAL
AND POSTDOCTORAL STUDENTS

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ABOUT THIS GUIDE

The doctorate is the first step on the path to an academic career. However, only some of those who obtain a doctorate go on to work in a university on a long-term basis. In a context where academic careers are becoming increasingly demanding and internationally focused without offering any medium- or long-term guarantees, many doctoral candidates pondering their professional future ask themselves which is the best alternative: continue in the field of research, embark on an academic career and aim at a professorship, or leave university armed with a doctorate? When this choice is being made, thought should be given to the conditions governing these career paths.

This guide has been produced to help those who have completed or are nearing the end of their doctoral studies and would like to know more about the possibilities of continuing their career as a researcher and the conditions relating to this choice and/or are seeking information about possible alternatives.

Important changes affecting the academic world over the past two decades have transformed working conditions in universities. In this context, equal opportunities for men and women constitute both an obligation and a challenge for universities and institutions that foster research. In Switzerland particularly, women remain under-represented among scientific staff in universities, especially at professorial level. The precarious nature of posts, the requirement of international mobility and the criteria of excellence currently advocated encourage linear and upward career paths. However these conditions create new obstacles, particularly in careers for women, regardless of the quality of their scientific work.

The experience of the *Réseau romand de mentoring pour femmes* (mentoring programme for women researchers in their early careers), is the starting point of this guide. The programme's participants, female researchers at advanced doctoral or post-doctoral level, share expectations and questions regarding for example the day-to-day demands of an academic career and its different stages, existing scientific networks and their importance in a researcher's career, promotion of research via journals or colloquiums, applications for grants, etc. Questions on these topics

have made it possible to identify the difficulties and issues facing young researchers in relation to today's academic world.

Based on the experience of this programme, this brochure provides food for thought and information to young researchers. The guide is intended for advanced doctoral students and postdoctoral researchers, as well as their supervisors.



FOCUS ON EQUAL OPPORTUNITIES

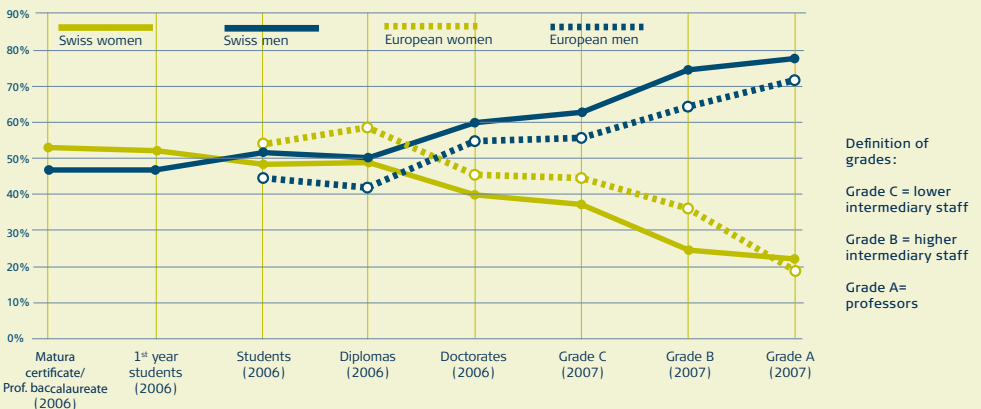
The number of female students at Swiss universities has doubled in twenty years. This increase is accompanied by two phenomena of persisting gender inequality.

Firstly, women students are concentrated in the human and social sciences and certain specialist fields of medicine, pharmaceuticals and law. They are under-represented in the exact and technical sciences.

Secondly, although female students often outnumber male students, fewer of the former study for a doctorate (57.6% male doctoral students compared to 42.4% female doctoral students in 2007). The proportion of women among those obtaining a doctorate in Switzerland (39% of PhDs in 2006) is well below the European average (45%).

The metaphor of the “leaky pipeline” illustrates the declining participation of women as the rungs of the academic career ladder are climbed. Today, only around 15% of professors are women.

THE LEAKY PIPELINE IN SWITZERLAND AND THE EUROPEAN UNION, 2006/2007 UNIVERSITY CAREER ACCORDING TO STAGES AND GENDER



Source: Office federal de la statistique (2009), *En Suisse et en Europe, la recherche demeure un milieu essentiellement masculin*. Press release 07.12.2009

The effect of the “leaky pipeline” varies according to discipline. Despite these differences related to discipline, the doctoral and postdoctoral period remains a key stage. Enabling more and more female researchers in all disciplines to complete this stage successfully is an important factor in the equality of opportunity.

To find out more

- * European Commission (2009), *She Figures 2009. Statistics and Indicators on Gender Equality in Science*, Luxembourg: Publications Office of the European Union.
- * Fassa Farinaz et Kradolfer Sabine (éds.) (2010), *Le plafond de fer de l'université. Femmes et carrières*, Editions Seismo, Zurich.
- * Leemann Regula Julia et Stutz Heidi (éds.) (2010) *Forschungsförderung aus Geschlechterperspektive: Zugang, Bedeutung und Wirkung in wissenschaftlichen Laufbahnen*. Zürich/Chur: Rüegger.
- * Office fédéral de la statistique (2009), *En Suisse et en Europe, la recherche demeure un milieu essentiellement masculin*, Communiqué de presse du 07.12.2009.
- * Office fédéral de la statistique (2010), *La formation et la situation professionnelle des titulaires d'un doctorat. Résultats issus des données du Système d'information universitaire suisse et de l'enquête 2007 auprès des personnes nouvellement diplômées*, Neuchâtel: OFS.

THE SWISS ACADEMIC SYSTEM: A BRIEF OUTLINE

The Swiss higher education system comprises :

- Federal Institutes of Technology (EPF)
- Cantonal universities
- Universities of Applied Sciences (HES) and Universities of Teacher Education (HEP)

UNIVERSITIES (HEU)

This category includes cantonal universities and the two federal institutes of technology. Their main tasks are teaching, research and the provision of services. They offer Bachelor and Master programmes in all disciplines and are the only institutions of higher education authorised to award doctorates. Some institutions however focus on flagship disciplines.

Cantonal universities, which developed in a decentralized manner, are regulated at cantonal level. The two EPFs are regulated by federal law. The cantons and the Confederation have nonetheless bestowed universities with considerable academic, financial and organisational independence within the framework of budgetary allocations.

Despite the federalism and autonomy granted to HEUs, the Confederation plays an important role, firstly through subsidies granted to the cantonal universities and also as co-manager and coordinator of higher education, a role formally conferred upon it by the new constitutional article regarding education accepted by popular vote in 2006.

THE MAIN DECISION-MAKING BODIES AT NATIONAL LEVEL

The **STATE SECRETARIAT FOR EDUCATION AND RESEARCH (SER)** is the competent authority of the Confederation for national and international matters concerning education in general, and university training, research and the space industry in particular.

www.sbf.admin.ch

The **SWISS UNIVERSITY CONFERENCE (SUC)** is the joint body of the Confederation and cantons for collaboration in the field of university policy.

www.cus.ch

The **RECTORS' CONFERENCE OF SWISS UNIVERSITIES (CRUS)** represents all Swiss universities in dealings with political authorities, economic circles, social and cultural institutions and the public.

www.crus.ch

The **EPF COUNCIL (CEPF)** is the strategic management and supervisory body for the EPF domain.

www.ethrat.ch

COORDINATION IN FRENCH-SPEAKING SWITZERLAND

The **UNIVERSITY CONFERENCE OF WESTERN SWITZERLAND (CUSO)** is the umbrella institution of Swiss French-speaking universities. Mandated by its members, the CUSO also acts directly by financing and organising joint teaching programmes, mainly at doctoral level.

www.cuso.ch

THE MAIN ASSOCIATIVE BODIES AT NATIONAL LEVEL

The **SWISS NATIONAL UNION OF STUDENTS (UNES)** represents the interests of students in Switzerland. It coordinates its members' claims and sits on national and international committees.

www.vss-unes.ch

ACTIONUNI is the Swiss association of researchers, representing the intermediary academic staff at universities and federal institutes of technology both at Swiss and international level.

www.actionuni.ch

The **CONFÉRENCE DES DÉLÉGUÉES À L'ÉGALITÉ AUPRÈS DES UNIVERSITÉS ET HAUTES ÉCOLES SUISSES (CODEFUHES)** is charged with promoting equality of opportunity for men and women in the academic world in Switzerland. It has an authoritative voice in the realm of equality and education policy both nationally and internationally.

www.kofrah-codefuhes.ch

SWISS ACADEMIES OF SCIENCE

The **SWISS ACADEMIES OF SCIENCE** association includes in particular :

- The Swiss Academy of Natural Sciences (SCNAT), www.scnat.ch
- The Swiss Academy of Human and Social Sciences (ASSH), www.assh.ch
- The Swiss Academy of Medical Sciences (ASSM), www.samw.ch
- The Swiss Academy of Technical Sciences (SATW), www.satw.ch

Their collaboration focuses on three areas of competence: foresight, ethics and dialogue between science and society.

www.academies-suisse.ch

The **SWISS CENTER OF ACCREDITATION AND QUALITY ASSURANCE IN HIGHER EDUCATION (OAQ)** is responsible for ensuring and promoting the quality of teaching and research in Switzerland's universities. Within its specific realm of competence and from an operational perspective, it operates wholly independently on the basis of international practices and the results of research.

www.oaq.ch

THE MAIN RESEARCH FUNDING BODIES

The SWISS NATIONAL SCIENCE FOUNDATION (SNSF) is the main institution that encourages scientific research in Switzerland.

Mandated by the Confederation, the SNSF, a foundation in private law, finances research projects for example and allocates grants and subsidies. The main activity of the SNSF is to assess the scientific quality of project applications submitted by researchers. Selected projects receive financial support from the SNSF.

www.snf.ch

The INNOVATION PROMOTION AGENCY OF THE CONFEDERATION (CTI) fosters knowledge and technology transfer between companies and universities by bringing them together as partners on applied research and development projects. It also provides assistance to start-up companies.

www.bbt.admin.ch/kti

RESEARCH IN SWISS GOVERNMENT DEPARTMENTS, generally referred to as «Ressortforschung», encompasses all activities related to the acquisition and development of knowledge necessary to implement the Confederation's policies. Apart from some noteworthy exceptions, most of the federal administration's research is carried out within the framework of mandates given to universities and the private economy. Projects are put out to public tender.

www.ressortforschung.admin.ch

The chapter entitled *Can an academic career be planned and how can it be financed?* (page 21) provides an overview of the main grants available to researchers.

To find out more

www.swissuniversity.ch

HOW UNIVERSITIES WORK

Universities are structured into faculties, which are subdivided into research and teaching or administrative units. University policy, research and teaching are defined at these different levels. Generally, the main thrust of university policy and the management of the institution are the responsibility of the Rectorate. The organisation of teaching and research is the responsibility of the faculties.

Although they are bound to respect the main policy decisions made at a central level, faculties are like small autonomous communities managed independently and on a collegiate basis.

Teaching staff members are expected to play an active part in faculty life. It is very important for young researchers not to underestimate the links that can be forged during activities organised by colleagues, during meetings of their institutes, in more informal settings or faculty committees. People encountered in these different circumstances may often play a facilitating role at one time or another in the course of a career.



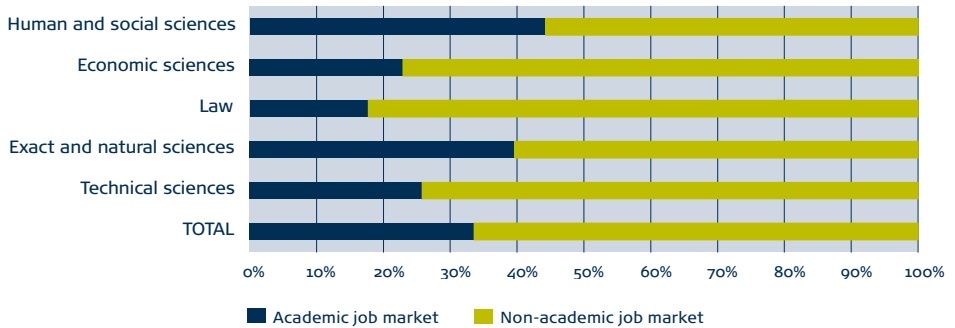
WHICH PATH TO CHOOSE AFTER THE DOCTORATE ?

This question is related to perceptions of the doctorate. Is the latter above all the first step on the academic career path, to the exclusion of any viable alternative, or is it also preparation for other professions linked to the scientific world ?

The non-academic job market offers diverse and varied career opportunities to PhD holders. Indeed, obtaining a doctorate does not simply amount to acquiring advanced scientific knowledge in a particular field, but also offers the possibility of developing more general methodological and social skills that are transferable and appreciated outside academia. If the decision is made to pursue an academic career, envisaging and preparing a “plan B” is worthwhile, since academic posts are relatively scarce and recruitment is highly selective.

Only a minority of individuals engaged in doctoral studies pursue an academic career over the long term. This is illustrated by the latest figures published by the Federal Office of Statistics concerning the training and professional situation of PhD holders (OFS, 2010). According to these figures, only 34 % of PhD holders are employed on the academic market one year after obtaining their qualification. The type of firms employing PhD holders on the non-academic job market varies according to the field in question.

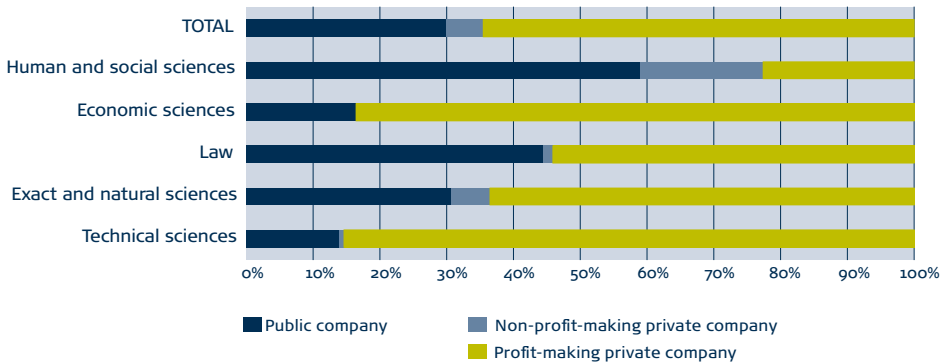
PHD JOB MARKET ACCORDING TO FIELDS OF STUDY (IN PERCENTAGE), 2006



Source: Office fédéral de la statistique

PhD holders classed as being employed on the academic job market are those who, at the time of the survey, were employed by a university, research institute or University of Applied Sciences (including Universities of Teacher Education).

PHD HOLDERS ACTIVE ON THE NON-ACADEMIC JOB MARKET ACCORDING TO TYPE OF COMPANY (IN PERCENTAGE), 2006



Source: Office fédéral de la statistique

Regardless of which path is chosen, doctoral students are advised to reflect on their future career, make enquiries and forge contacts before completing their thesis.

Indeed preparation for a post-doctoral position (preparing the presentation of a research dossier, possibly applying for a grant and waiting for a response from the SNSF, negotiating the best possible employment terms, organising possible relocation either as a single person or as a couple, where necessary arranging child care and schooling, etc.) takes time.

Generally the doctorate constitutes an asset for obtaining a post with responsibilities. However, in order to maximise your chances, it is a good idea to plan and prepare for a career on the non-academic job market well in advance. Indeed further training or practical experience may be required in some sectors. Those in charge of the recruitment process may also sometimes underestimate the work experience of PhD holders, who will then have to convince them.

The following pages offer advice and tips to doctoral students to help clarify the situation.

To find out more

* ESF Member Organisation Forum (2009), *Research Careers in Europe – Landscape and Horizons*, Paris: esf.

* Office fédéral de la statistique (2010), *La formation et la situation professionnelle des titulaires d'un doctorat. Résultats issus des données du Système d'information universitaire suisse et de l'enquête 2007 auprès des personnes nouvellement diplômées*, Neuchâtel: OFS.

* Secrétariat général de la CRUS (2009), *Rapport sur le doctorat 2008. Vue d'ensemble du doctorat en Suisse*, Berne: CRUS.