UNIVERSIDAD DE GRANADA

RESEARCH CAREER OPTIONS

HR EXCELLENCE IN RESEARCH

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Objectives of the document

The document on career options is part of the actions foreseen in the European Strategy for Human Resources in Research (HR Excellence in Research) of the University of Granada with the aim of providing information on different approaches to the development of a professional career in research and is submitted to the Governing Council for approval in the exercise of the powers attributed to it in the framework of Article 35.1 of the Statutes of the University of Granada.

This information covers the different stages of a professional research career, after predoctoral and postdoctoral training, both within the academy and outside the academy, so that it also includes alternatives that may have with private enterprise, entrepreneurship or even professional mobility.

The beginning of the research career

Once the degree of graduate, engineer or architect has been obtained, it is possible to continue towards the field of research through the master's degree, which aims to provide the student with advanced training of a specialized or multidisciplinary nature, oriented towards academic or professional specialization, or to promote initiation in research tasks. The completion of these courses entitles the student to obtain the corresponding official master's degree, which may lead to the completion of a doctoral thesis and the award of a doctoral degree.

The updated offer can be consulted on the UGR Master's Degrees website, through the complete list or the lists organized by branch of knowledge, double degrees, Erasmus Mundus Master's Degrees and bilingual Master's Degrees or those taught in English.

Once this master's degree has been obtained, the next step towards research is the completion of a doctorate. A doctorate is understood to be the third cycle of official university studies, leading to the acquisition of competencies and skills related to quality scientific research. Doctoral studies are structured in programs. Doctoral training does not consist of courses, but of training activities aimed at acquiring the aforementioned competencies.

A doctoral student is considered to be a person who, upon accreditation of the established requirements, has been admitted to a doctoral program and has enrolled in the same.

Doctorate Options at Universidad de Granada

The University of Granada offers a wide range of programs doctoral adapted to the European Higher Education Area, grouped into three Doctoral Schools:

- Programs of the Doctoral School of Health Sciences.
- Programs of the Doctoral School of Science, Technology and Engineering.
- Programs of the Doctoral School of Humanities, Sciences Social and Law.

This is the starting point for a research career. Once this process has been completed, the doctoral candidate will continue to train and advance in the professional research career by deepening his/her knowledge and skills and advancing through the different regulated stages, if he/she continues his/her work in academia or public research centers. In other fields, it is also possible to develop a research career, although this does not involve the same criteria as in academic fields.

Research profiles within the framework of HR Excellence in Research (R1 to R4)

The European Commission and Euraxess use a classification that makes it possible to describe, in general terms, the characteristics of the four main profiles that apply to all research personnel, regardless of where they work in the private or public sector: in companies, NGOs, research institutes, research universities or universities of applied sciences.

These profiles are:

R1 - First Stage Research Staff

- Research personnel conducting research under supervision up to the level of doctorate or equivalent level of competence and experience.

R2 - Recognized research personnel

- Research personnel with a Ph.D. or equivalent level of competence and experience who have not yet established a significant level of independence in conducting their own research, attracting funding or leading a research group.

R3 - Established research personnel

- Research personnel with a Ph.D. or equivalent level of competence and experience who are capable of independently developing their own research, attracting funding and leading a research group.

- Research personnel with a Ph.D. or equivalent level of competence and experience who are recognized by their peers as leaders in their field of research.

In detail, there are a series of competencies that are considered necessary for each of the categories and others, without being considered necessary, are accepted as desirable:

	Some necessary competencies
R1.Research personnel first stage.	• Conduct research with supervision. • Have evidenced a solid understanding in an area of study. • Demonstrated ability to generate data under supervision. • Have the ability to critically analyze, evaluate and synthesize novel and complex ideas. • Be able to communicate research results (and their significance) to other research personnel. *Other desirable skills:* - *Communication and international relationship building skills.*
R2. Recognized research personnel.	• Ability to design and implement research programs. • He has made innovative contributions in his field of work, susceptible to publications or patents. • Is able to explain the result of his research and its value, both to his peers and to the general public. • Signed as co-author and first author on articles. • You have leadership skills and can lead teams. *Other desirable skills:* - *It values their work and the contributions it can make to the industry and other related sectors.* - *Advises research personnel in their early stages.*

R3. Established research personnel.	• He has a reputation as a research staff based on the excellence of his work. • Conducts research and promotes collaborative work with other research personnel and centers. • Identifies research problems and opportunities within their area of expertise. • Identifies appropriate research methodologies and approaches. • He promotes the research agenda in his field through his contributions. • Publishes articles as lead author, organizes seminars or conference sessions. *Other required competencies:* - *He collaborates on a regular basis with research groups and industry.* - *It has the capacity to obtain funding and resources for its research.*
R4. Leading research personnel.	• It has an international reputation based on the excellence of its work. • Makes substantial contributions to his or her field of research or spans multiple areas. • Develops a strategic vision for the future of the research field. • He publishes research results with impact and is a member of organizations such as scientific committees. *Other desirable skills:* - *Is able to communicate and network within and outside the research community.* - *It is able to create an innovative and creative environment for research.*

Funding of the research career (Career Path. FECYT.)

An essential element to consider when planning a research career is its financing. Some doctoral programs involve scholarships and there are several calls for proposals for programs that also finance postdoctoral stages. These grants come from various public and private agents, both national and regional. In order to facilitate knowledge and access to them, the FECYT has been working for some years now to compile and publish the grants available to finance the different stages of the research career. Under the name of *Researcher career path in Spain*, it periodically updates the document which can be consulted at the following link.

This link includes, in addition to the national options, the regional options, which in the case of Andalusia are:

CALL FOR PAPERS	LINK
Pre-doctoral hiring of research personnel in training by agents of the Andalusian Knowledge System.	http://sl.ugr.es/0eAr
Incorporation of clinician-researchers - Andalusian Health System 2021	http://sl.ugr.es/0eAp
María Castellano Arroyo Program	http://sl.ugr.es/0eAs
Nicolás Monardes 2022, Consolidation contracts for researchers linked to Clinical Management Units.	http://sl.ugr.es/0eAt
Emergia 2023, Attracting Research Talent	http://sl.ugr.es/0eAu

Career options

After starting out in a research career, many junior research staff are able to develop promising careers outside academia. In this section of the paper we will explore where other professionals with a similar background work and what skills are valued in these roles.

What kind of jobs are available for research staff outside academia?

Euraxess has systematized a search of the jobs that research personnel have been occupying and the skills required for these occupations. The document allows to draw a clearer picture of some professional alternatives and to check what requirements would be necessary to address the challenge of getting them. The complete information is available *online* for consultation and covers the following sectors, among others:

- Agropecuario
- NGO's
- Consulting
- Finance
- Higher education
- Health
- Information Technology
- Legal sector
- Manufacturing
- Media and communications
- Mining and energy sector

- Pharmaceuticals and life sciences
- Public sector
- Transportation and warehousing

What skills are important to employers?

Generally speaking, research personnel often feel that the skills and competencies they possess are not required or valued by employers. This is not true. Research shows that the skills that research staff believe they have are highly valued by employers. According to Euraxess, some of the most valued competencies are:

- Troubleshooting
- Technical/specialized experience
- Research skills
- Communication
- Creativity
- Self-organization
- Collaboration
- Innovation
- Project management
- Emotional intelligence

Key tips

Each person should be able to identify and map out his or her career path, although there are some tips or aspects to keep in mind when faced with the question of how to move forward. Euraxess gives some hints that include:

- **Explore possibilities in other sectors:** There are a wide range of opportunities that could be a better fit for your skills. It is important to be aware of them.
- **You will never stop being research staff**: Many people who work outside of academia continue to do research. The skills you develop as research staff will be incredibly useful, regardless of your future role.
- **Manage your own career:** Career management is an ongoing process that you must manage yourself. No one can do it for you. As research staff you have the skills to thoroughly investigate the options.
- **Be confident in your skills and competencies:** You possess a high level of competence in many areas. Make employers see how good you are.

The career plan

The development of a professional research career is a medium-term project that should be properly planned and thought through. There are various tools to help in the development of a career plan, providing the necessary reflection and ideas and resources for this construction.

Some of them are:

1. Talent Development Suite (TDS) is a tool that helps you plan your personal career development. Unlike other career planning tools, the TDS is a personal process that does not describe your skills, but gives you a personal insight into your future life (private and personal). The TDS is designed especially for research staff who have completed their doctorate between one and three years earlier, although it can be used at any time and is prepared so that they can use it without the help of a career coach.
2. Career Orientation tool: a comprehensive tool that, as a "no limits" toolkit, includes help in identifying what is important to each individual in his or her career, assists in planning for skills and knowledge development, provides a wide range of career options and helps in designing a plan to achieve career development goals.

The framework of professional competencies in research

Another fundamental element in the construction of a professional research career is the adoption of appropriate professional competencies. Once the demands of the labor market are explored in this regard, according to the sectors and once the professional motivations and objectives have been analyzed, it is time to address the professional competencies needed and how to acquire them.

The main tool created by the European Commission is the Research Comp which aims to generate a European competency framework (organized by levels) for research staff that also helps to foster intersectoral mobility by supporting the transversal competencies of research staff. It is also the first competency framework aligned with the European Classification of Skills, Competences and Occupations (ESCO), since it has been

developed based on the taxonomy of transversal skills for research personnel included in the 2022 version of the classification.

Research Comp has three main dimensions:

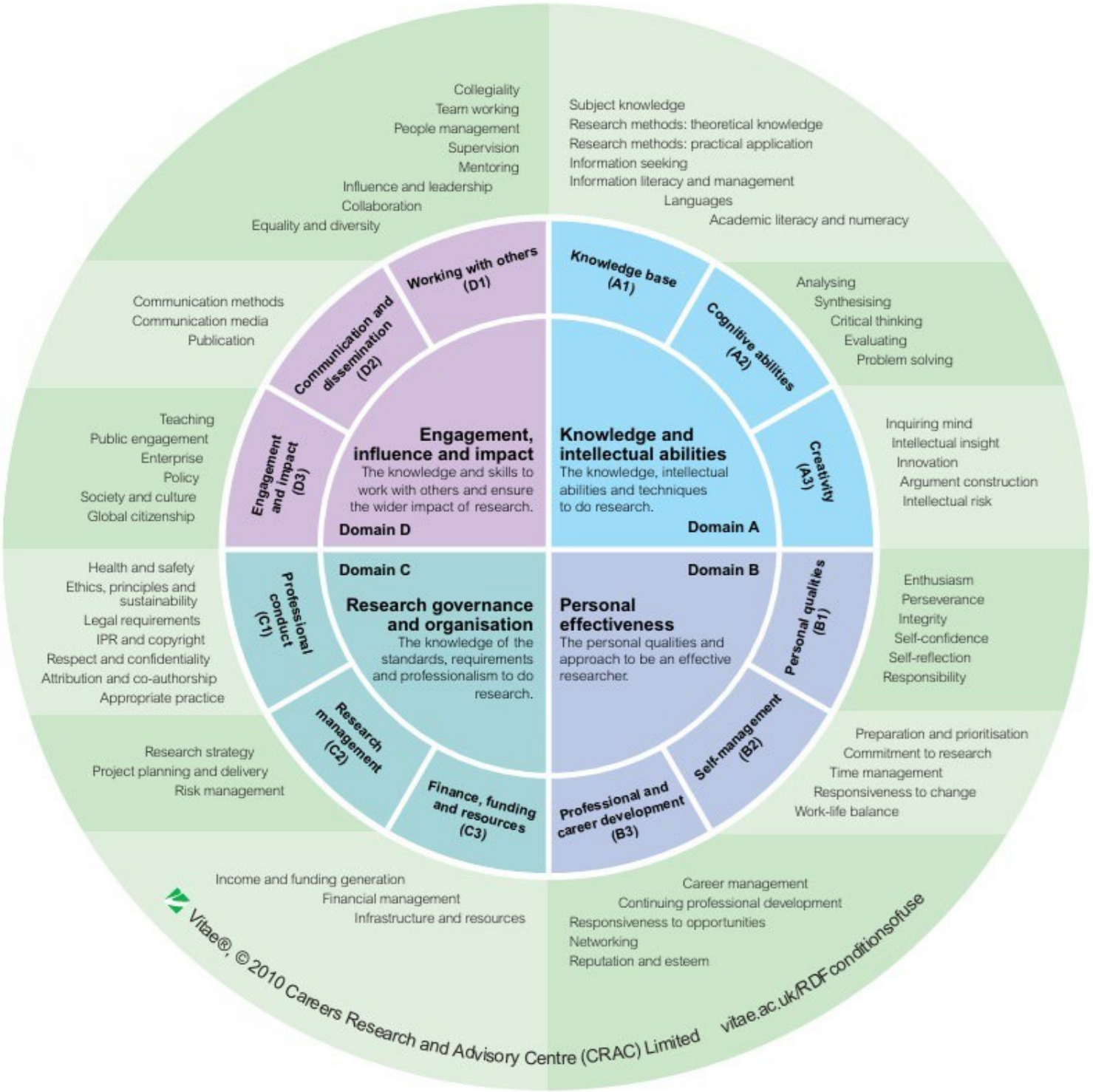
- Areas of competence: 7 areas (cognitive skills, doing research, managing research, managing research tools, generating impact, working with others, self-management).
- Competencies: 38 competencies.
- Learning outcomes: 389 learning outcomes across 4 levels of competence (fundamental, intermediate, advanced, expert).

Each competency is defined by a descriptor and is developed with learning outcomes for each competency level.

It is not suggested that research personnel acquire the highest level of competence in all 38 competencies or have the same level of competence in all of them. However, research personnel should develop competencies in all 7 areas.

Progression through the levels for the various competencies can be the result of dedicated training courses, on-the-job training, peer learning, coaching and mentoring.

Another classic reference tool is Vitae's Research (RDF)Staff Development Framework . This is a comprehensive tool designed to enhance the professional growth of research staff in higher education. It serves a variety of audiences, including research staff, their managers, trainers and employers, with the aim of supporting and planning research staff development. Although it originated in the UK, it is adapted to the European context. The RDF is structured into four main domains or areas and twelve subdomains that encapsulate the knowledge, intellectual skills, techniques and professional standards required for effective research. It has sixty-three descriptors with different stages of development, helping research staff to identify areas for improvement through a Professional Development Planner.


Collegiality
Team working
People management
Supervision
Mentoring
Influence and leadership
Collaboration
Equality and diversity
Subject knowledge
Research methods: theoretical knowledge
Research methods: practical application
Information seeking
Information literacy and management
Languages
Academic literacy and numeracy
Working with others (D1)
Knowledge base (A1)
Communication methods
Communication media
Publication
Communication and dissemination (D2)
Cognitive abilities (A2)
Analysing
Synthesising
Critical thinking
Evaluating
Problem solving
Teaching
Public engagement
Enterprise
Policy
Society and culture
Global citizenship
Engagement and impact (D3)
Engagement, influence and impact
The knowledge and skills to work with others and ensure the wider impact of research.
Domain D
Knowledge and intellectual abilities
The knowledge, intellectual abilities and techniques to do research.
Domain A
Creativity (A3)
Inquiring mind
Intellectual insight
Innovation
Argument construction
Intellectual risk
Health and safety
Ethics, principles and sustainability
Legal requirements
IPR and copyright
Respect and confidentiality
Attribution and co-authorship
Appropriate practice
Professional conduct (C1)
Domain C
Research governance and organisation
The knowledge of the standards, requirements and professionalism to do research.
Domain B
Personal effectiveness
The personal qualities and approach to be an effective researcher.
Personal qualities (B1)
Enthusiasm
Perseverance
Integrity
Self-confidence
Self-reflection
Responsibility
Research strategy
Project planning and delivery
Risk management
Research management (C2)
Finance, funding and resources (C3)
Professional and career development (B3)
Self-management (B2)
Preparation and prioritisation
Commitment to research
Time management
Responsiveness to change
Work-life balance
Income and funding generation
Financial management
Infrastructure and resources
Career management
Continuing professional development
Responsiveness to opportunities
Networking
Reputation and esteem
Vitae®, © 2010 Careers Research and Advisory Centre (CRAC) Limited
vitae.ac.uk/RDFconditionsofuse

Euraxess, for its part, also has a professional development tool that it has created and tested in several countries: REFLEX.

It aims to help research institutions, research staff and professionals who support research staff to facilitate the professional development process, based on an outline that identifies the key areas of development and provides examples of activities that can be carried out to support research staff in all these areas. This application has a comprehensive user guide and an integrated training model outline:

- **Mobility:** how to support research staff to move freely and easily (dual careers, cultural, legal, linguistic aspects, etc.)
- **Networking**: how to facilitate the integration and development of professional contacts (interdisciplinary collaborations, mentoring, alumni associations, etc.).
- **Professional support:** through career development tools (advisors, career coordinators, financing, etc.).
- **Academic and development skills:** provide training in cross-cutting skills such as communication, management, planning, leadership, etc.
- **Interaction with companies:** providing information on what is needed and how they work, as well as useful knowledge for entrepreneurship.

Career development at UGR

Strategies

Own Research and Transfer Plan: The University of Granada has an annual Own Research and Transfer Plan, which aims to promote the recruitment and attraction of talent, the promotion of lines and units of excellence that enable the improvement of our internationalization and the creation of new lines that allow us to compete successfully in Horizon Europe and in programs of the State Plan.

The main lines of action of this plan and its objectives are as follows:

- Incentivization of Research Activity
- Empowerment of Human Resources
- Talent attraction
- Mobility and Improvement of Research Personnel

- Recognition of Research Activity
- Horizon Europe Programs
- Aid for Transfer of Research Results
- Grants in collaboration with CEMIX. UGR-MADOC Program
- Programs of the Vice-Rector's Office for University Extension, Heritage and Institutional Relations
- Grants from the Vice-Rector's Office for Equality, Inclusion and Social Commitment
- Grants from the Vice-rectorate for Social Innovation, Employability and Entrepreneurship
- Grants for the International Mobility of Doctoral Students

Stabilization Plan for Research Personnel and Incorporation of Assistant Professors: this plan is updated periodically and seeks to retain talent.

Tools.

The University of Granada's concern for the professional development of its research personnel has also led to the implementation of several initiatives:

The AcademiaUGR Plan

The Teaching Training and Innovation Plan of the University of Granada 2024-2029 (AcademiaUGR Plan) seeks to develop the capabilities and competencies of faculty in university teaching and learning. It emphasizes continuous improvement of teaching performance in undergraduate and graduate contexts, and seeks to promote practices that integrate entrepreneurship, inclusion, digitization, sustainability, and teaching wellbeing. Expected results include the creation and dissemination of teaching resources, as well as the exchange of best practices.

The training programs range from basic actions (aimed at sensitizing and training novice teachers or in new topics, providing basic theoretical and methodological training) to advanced actions (focused on deepening content and improving teaching practices, and requiring prior training of the attendees).

Continuing Education and Professional Development

The University of Granada has several ongoing training programs that also include transversal skills. It is possible to find all the updated information on the website of the Vice-rectorate of Quality,

Teaching Innovation and Undergraduate Studies, as well as on the website of the different doctoral programs.

Mentoring plan

The University of Granada has implemented a mentoring program to support the professional development of research staff, providing guidance and advice from the most experienced research staff. With the aim of promoting quality research and taking advantage of the experience of emeritus faculty in research tasks, as well as to attend to less experienced research personnel with more specific needs, this "Mentoring for Research at the University of Granada" program was launched.

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