

INTRODUCTION TO RESEARCH FUNDING

CONTEXT AND OPPORTUNITIES

Jérôme Eeckhout

ULIEGE – RISE – Cellule Montage et Gestion de Projets



This document summarizes the content of the course (or training program) offered at ULiège on the topic of research funding, intended for master's students, PhD students or researchers. It complements the visual presentation, the format of which may vary depending on the module, to ensure consistency in the information and ensure digital accessibility.

CONTENTS

Introduction	2
Funding Organizations	2
The objectives of funders.....	2
The variables involved in research funding.....	4
Applicants status	4
Partnerships	5
Examples	5
Type of research.....	6
Budget.....	6
Research topics	6
Evaluation of applications	6
Examples	7
Some cross-cutting issues.....	8
Ethics	8
Open science	9
Data management	9
Dissemination	9
Gender and equity	10
Sustainable development	10
ULiège Support for Research Funding	11
Monitoring and awareness on Funding opportunities.....	11
Specific tools for developing and writing applications.....	11
Institutional initiatives on cross-cutting issues.....	11
Contacts	12

INTRODUCTION

The objective of this course or training program is to provide **an overview of the context in which research is funded**. Through a general presentation of funding agencies, their expectations, and their strategies, the course aims to provide a better understanding of the mechanisms that shape funding opportunities. Grasping these aspects is a useful first step for anyone who wishes to effectively identify relevant calls for proposals (grants, fellowships, etc.) and optimize their application. Since this is an introduction to the topic, the content is intended to be concise. Anyone seeking additional information can refer to the services offered by RISE, detailed on the ULiège intranet pages¹. Regarding monitoring funding opportunities, information on the tools available at ULiège is provided at the end of this document.

FUNDING ORGANIZATIONS

Who funds research ?

There are two main categories of funding sources: public and private organizations. In both cases, scientists must deal with a large number of stakeholders.

On the public sector side, various levels of government are involved: the European Union, the Belgian Federal Public Service, the Walloon Region, the Wallonia-Brussels Federation, etc. Within each of these institutions, several entities are involved in research funding, with varying responsibilities and degrees of involvement (see below). Furthermore, the scope of each entity can vary considerably, ranging from those covering all scientific fields to those focusing on much more specific areas.

For private organizations, funding may come from both commercial entities (companies) and nonprofit organizations (associations, foundations, etc.). The diversity of stakeholders is even greater than on the public side, and although the opportunities may seem fewer in number and smaller in budget, they prove to be essential for certain research fields.

In addition to this, we might also mention opportunities arising from other research organisations, regardless of their status.

THE OBJECTIVES OF FUNDERS

Why do they fund research ?

The objectives of funding organizations depend on varying dynamics.

For private organizations, the underlying motivation is a direct interest in research outcomes. For companies, this represents a commercial interest: they can fund research because they will use the results to design, develop or improve a product, process or service that they bring to market. Nonprofit organizations, such as associations or foundations, often have an interest related to the research topic itself. A clear example of this is the Foundation Against Cancer: among all the activities it funds, this

¹ <https://my.recherche.uliege.be>

foundation is naturally interested in contributing to scientific advances that aid in diagnosing and combating the disease.

For public agencies, in terms of motivations, stakeholders can be divided into two categories, even though, on both sides, the objective pursued through research funding falls within the scope of political authority.

- Ministers and commissioners **in charge of research** are responsible for implementing **science policy** in collaboration with the relevant administration departments or agencies. This policy can take a wide variety of forms depending on the level of government, with expectations regarding its impact that may extend beyond the strict framework of generating new knowledge.
- Ministers or commissioners **in charge of other areas of responsibility** may establish programs or initiatives that fund certain research activities, provided that these activities contribute to missions related to their responsibilities. In other words, research is just one activity among others within grant packages aimed at achieving impacts specific to those areas. For example, at the European level, ERDF funds support regional development policies. Among the many initiatives they finance, they cover research activities, but only within this very specific context of regional development. Other programs exist to support policies related to the environment, digitalization, and so on. These programs are designed, evaluated, and implemented based on criteria specific to the relevant policy areas.

The proliferation of levels of authority, stakeholders, and initiatives not only creates a complex funding landscape for researchers but also carries certain risks of overlap for funding agencies. To avoid funding the same type of activities multiple times or to ensure greater consistency in actions, there is growing support for efforts aimed at maximizing synergies among these stakeholders.

Despite this shared commitment, the various levels of government still have their own specific expectations. For your information — or as a reminder — here are the key characteristics of our main public funders responsible for “research.”

Wallonia-Brussels Federation (FWB)

In accordance with the division of political powers in Belgium, the Wallonia-Brussels Federation (French Community) is responsible for basic research². This responsibility is supported through (1) direct funding of universities and (2) the Fund for Scientific Research (F.R.S.-FNRS). The mission of the F.R.S.-FNRS is to promote basic research based on proposals submitted by researchers and through an evaluation process based solely on the criterion of scientific excellence.

Walloon Region

The Walloon Region, for its part, has been granted authority over applied research. Successive policy decisions governing this responsibility have led to the integration of research and innovation initiatives into the region’s socioeconomic development framework. All funding awarded is therefore aimed at generating an economic impact in the Walloon business sector, whether in the short, medium, or long term. The terminology used in official documents explicitly

² « Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. » (OCDE (2016), *Frascati Manual 2015 : Guidelines for collecting and reporting data on research and experimental development*, Éditions OCDE, Paris.)

refers to subsidised activities as ‘industrial research’. In 2020, the Walloon government also adopted “Strategic Innovation Areas” (Domaine d’Innovation Stratégique – DIS), which require that activities focus on specific thematic fields. These DIS were revised by the government in July 2026³.

European Union

At the European level, the Commission has been implementing successive pluriannual research framework programs for many years. Horizon Europe is the ninth program of this type, and its implementation period runs from 2021 to 2027⁴. Originally designed as specific support measures for research, the framework programs have evolved over time. Today, they are instruments aimed at achieving broad impacts—not only scientific but also societal and economic. The European authorities’ goal is to use these instruments to contribute to the implementation of other policies (digital transition, Green Deal, etc.), to address societal challenges (ageing population, security, climate change, etc.), and to help achieve international goals (such as the Sustainable Development Goals defined by the United Nations⁵).

The challenge for any researcher dealing with these diverse stakeholders and their specific objectives is to meet their own expectations — in terms of career development, collaborations, and scientific achievement — while understanding that the expectations of funders may be expressed quite differently, in terms that no longer necessarily focus primarily on the advancement of new knowledge.

THE VARIABLES INVOLVED IN RESEARCH FUNDING

How do funding agencies support research ?

Funding agencies’ expectations, policies, and strategies directly influence the various aspects of research programs. While it is important to consider all of these factors to ensure that a funding call aligns with a researcher’s individual project, certain factors are critical and must be fully understood to maximize the chances of success.

APPLICANTS STATUS

An application may be expected from an individual or from an institution. The opportunities available to researchers vary depending on their status and career stage. Certain criteria, such as seniority — for example, the number of years since obtaining a PhD — or the type of position held (temporary or permanent), may be used by funding agencies to set certain restrictions.

Generally speaking, an applicant’s status is an **eligibility** criterion — that is, it determines whether or not they can apply. However, in certain calls for proposals, it can serve as a positive factor during evaluation, for example, when the involvement of early-career researchers is considered an added value.

³ <https://s3.wallonie.be/home/s3wallonne/les-domaines-d-innovation-strategiques.html>

⁴ https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

⁵ <https://www.un.org/sustainabledevelopment/fr/objectifs-de-developpement-durable/>

PARTNERSHIPS

To analyse the consortium expected in a call for proposals, it is necessary to distinguish between the types of partner organizations and their **roles**. Funding agencies may have expectations or requirements regarding the inclusion in the consortium of commercial entities, associations, civil society representatives, public authorities, etc. Often, specific rules govern the expected number of partners and their geographic location.

The tasks assigned to the various members of a consortium are also directly influenced by the objectives of the call for proposals. For example, the role of a company can vary greatly: providing support to guide the research plan (without necessarily receiving funding), hosting seconded researchers to contribute to their training, directly undertaking research tasks, coordinating a consortium, and so on.

EXAMPLES

To illustrate the first two variables — status and partnerships — we can examine the funding programmes specifically dedicated to doctoral students across the three main levels of government.

- Europe

In the Horizon Europe program, only one instrument is directly and specifically aimed at doctoral studies: the “Doctoral Networks,” which are part of the “Marie Skłodowska-Curie Actions.” These are projects submitted by consortia of academic and non-academic entities. The participants are future thesis promoters. About ten organizations agree on a research topic, establish a joint doctoral training program, and, most importantly, define a list of thesis topics to be pursued. If the project is selected for funding, the consortium hires doctoral students through an open recruitment process. Thus, in its call for proposals, the EU addresses supervisors, not doctoral students. The latter do not submit a thesis proposal; they apply for an open position at an organization that is a member of the consortium.

- FNRS

The FNRS has established various instruments to support doctoral studies. In each case, the process involves receiving and evaluating individual research proposals developed directly by a doctoral candidate in collaboration with their supervisor.

- SPW

The Walloon Region offers a program called WIN4DOC. Projects are submitted by a company — which will serve as the coordinator — and a partner university. Together, they define a PhD topic whose results are expected to have an impact on the company’s business. The doctoral student does not necessarily have to be identified in the application (this may affect the evaluation, but does not constitute a criterion for the project’s eligibility).

These three examples illustrate the very different dynamics of the three agencies involved. While the overall objective is the same — namely, to support and fund doctoral students — the specific expectations of each level of authority result in entirely distinct conditions for participation. The projects submitted are therefore very different.

TYPE OF RESEARCH

The general distinction between basic research and applied research has already been discussed in the section on the division of responsibilities. Funding agencies that focus on applied research often clarify this concept — that is, break it down into subcategories — to better describe the expected activities. A framework shared by many organizations is the Technology Readiness Level (TRL)⁶, which describes the various stages of the research and development process, from the concept or idea for an application to the product, process, or service that will be commercialized or disseminated. This scale has nine levels. Some funding programs specify the expected level prior to the project and the target level at the end of the funded research. This can also impact the type of partnership sought : as a project progresses up the scale, the key role in the project shifts from the academic sector to the non-academic sector.

BUDGET

Variability in terms of budget — beyond the financial allocation available per project — relates to the types of expenses that are considered eligible. Depending on the project's objectives, one or more categories may be covered: personnel costs, operating costs, travel costs, training costs, secondment costs, equipment costs, etc.

RESEARCH TOPICS

There are two main opposing approaches: “bottom-up” and “top-down.”

In “bottom-up” calls for proposals, the applicants are free to decide on the topic of the research to be conducted. Although the relevance of the choice must be demonstrated through a review of the state of the art or a description of the scientific context, no restrictions are defined in advance by the funding agency.

In contrast, in the “top-down” approach, the funder specifies in its call for proposals the topic(s) for which projects are sought. These topics can be quite broad — for example, in the case of the Walloon Region's Strategic Innovation Areas (see p. 3) or the FNRS's FRESH grants (which cover the entire field of the humanities and social sciences) — or more narrow, such as funding targeting a specific disease (cancer, Alzheimer's disease, etc.), or even extremely specific, as is the case for certain types of calls under the Horizon Europe program⁷.

EVALUATION OF APPLICATIONS

This is the most significant factor in the objectives and expectations of funding agencies. Evaluation procedures concern both the individuals who will evaluate the applications and the criteria they will use.

It is essential to know who the evaluators will be : scientists, topic-matter experts, members of government agencies or funding agencies, representatives from industry, civil society actors, etc. The composition of the evaluation committees must be considered when drafting an application. The content must be understandable and tailored to these evaluators.

The evaluation criteria frequently used are varied:

⁶ <https://reseaulieu.be/2024/10/21/technology-readiness-level/>

⁷ Examples are available on the ULiège intranet at the page https://my.recherche.uliege.be/cms/c_18155299/fr/myrecherche-clusters

- excellence (of an individual, a consortium, a project, a methodology, etc.),
- impact (scientific, socioeconomic, etc.),
- implementation (management capacity, complementary of a partnership, research environment, etc.),
- dissemination (scientific, to the general public, etc.),
- training (transferable skills, employability, etc.),
- ...

Each funding agency will select certain criteria (or subcriteria) for each program, assigning them a relative weight based on the targeted objectives. The criteria are often clearly visible, as they are listed as sections in the proposal templates, and it is important to give due consideration to each one.

EXAMPLES

The three programs presented earlier to illustrate the variables of *status* and *partnerships* are also very indicative when compared in terms of evaluation criteria.

- Europe

“Doctoral Networks” are evaluated based on broad and balanced criteria : excellence (of the proposed research, the training program, and the supervision arrangements), expected impact (scientific, societal, employability), and implementation (consortium management, resource allocation, and feasibility). None of the subcriteria may be overlooked. Given the competition in these calls for proposals, it is essential to demonstrate quality in all aspects under consideration.

- FNRS

FNRS positions and research fellowships are evaluated based solely on the criterion of excellence (of the applicant, the research project, and the research environment).

- SPW

WIN4DOC projects are evaluated with a focus on their economic impact for the company. The value of the innovation and the project’s innovative nature account for half of the points. Funding for the doctoral program therefore depends heavily on what the company will be able to achieve after the doctoral degree is completed. The remainder of the evaluation covers excellence and experience, feasibility and relevance, the degree of risk, and the contribution to sustainable development.

Once again, these three examples illustrate the very different policy objectives of the three organizations in question. It is clear that proposals must be tailored to the expectations of the funding agencies in order to be selected. A similar proposal submitted to both Horizon Europe and the FNRS could receive very different evaluation results. And this, of course, applies beyond the specific examples given here.

SOME CROSS-CUTTING ISSUES

Funding agencies consider several cross-cutting issues to be priorities and/or horizontal principles that must be integrated into all research projects.

Some of these issues appear systematically, regardless of the level of authority or the program, because they address societal concerns that may be subject to legislation at the European, national, or regional level. Examples include ethics and the protection of personal data.

Others are not always addressed, although they are becoming increasingly common. Their inclusion reflects the policy objectives of the funding agencies. Examples include Open Science practices, research data management, gender and equality, and the DNSH principle⁸.

Cross-cutting aspects may be addressed with varying levels of requirements:

- information to be provided by applicants, without specific restrictions;
- an eligibility criterion that must be met;
- an evaluation criterion;
- a contractual obligation if the project is funded.

ETHICS

The concept of ethics, often associated with that of integrity, covers a fairly broad scope in the field of scientific research. To better understand it, one can refer to the categorization of relevant components as applied in European projects:

- Use of human embryonic stem cells (hESCs) and human embryos
- Participation of human subjects
- Use of human cells or tissues
- Processing of personal data
- Use of animals
- Collaboration with third countries (non-EU)
- Potential impact on the environment, health, and safety
- Use of artificial intelligence
- Other ethical issues
- Cross-cutting issue : potential misuse of results

Research funders unanimously recognize that ethics and integrity are essential for several reasons: to ensure the excellence of research, to maintain public trust in science, to enable the responsible use of research findings, and so on. This gives rise to oversight mechanisms designed to ensure both compliance with international, national, or institutional regulations and integration into shared frameworks such as codes of conduct, charters...

However, practices for project submission and contract negotiation remain quite variable, ranging from a simple verification of authorizations obtained from research organizations to highly detailed review

⁸ DNSH – “Do No Significant Harm” – is a principle included in European regulations and designed to ensure that funded activities do not undermine the six climate and environmental objectives set out by the EU.

<https://www.health.belgium.be/en/professionals/administration-policy/do-no-significant-harm-dnsh>

procedures, including a self-assessment and analysis conducted before the project begins, followed by monitoring checks and audits carried out during the project.

OPEN SCIENCE

Open science practices encompass various aspects of research: open access to publications, open access to research data, open source software, open educational resources, and citizen/participatory science. An overview of these initiatives at ULiège is available on dedicated web pages and in the first roadmap adopted internally in 2024⁹.

On the part of funding agencies, increasing attention is being paid to these practices, although expectations may vary. Once again, we can cite the example of European projects, as they often serve as reference for trends and procedures that are subsequently adopted on a large scale. In Horizon Europe, open science is taken into account both during the evaluation process and when grants are awarded. This means that researchers must meet both expectations — which will be evaluated — and contractual obligations. In submitted proposals, open science practices must be described in the project methodology section. Whereas previously they were evaluated primarily under the “impact” criterion, they are now considered an integral part of the “excellence” criterion. Furthermore, for all funded projects, the agreements include a requirement to make publications open access and to share data under certain conditions (considering potential restrictions related to ethics, security, and intellectual property rights). In addition, the fields of open source, open education, and citizen science may be the subject of complementary initiatives: on the one hand, incorporating these practices into any submitted project when relevant, and on the other hand, launching calls for proposals specifically designed to promote them.

DATA MANAGEMENT

Beyond the issue of sharing research data, funders are focusing on the overall management of such data, with its entire lifecycle being analysed: collection, processing, storage, protection, access, publication, long-term preservation and potential reuse. These concerns are in line with internationally recognised principles known as *FAIR Data*, according to which data should be *Findable, Accessible, Interoperable and Reusable*.

As with open science practices, data management can entail both expectations for researchers in the applications they submit for evaluation and contractual obligations. To ensure these issues are addressed, funding bodies are increasingly relying on a widely used tool: the Data Management Plan (DMP). This is a text-based document that sets out project-specific information and commitments for the various stages of the cycle mentioned above, as well as certain legal and ethical aspects.

DISSEMINATION

As with other aspects outlined above, expectations regarding dissemination are becoming increasingly commonplace. Often, these expectations are no longer directed solely at the academic sector, but also at members of the public and potential users, including those in the private sector or public authorities. For funders, beyond monitoring the impact of a project’s results, this dissemination represents a direct

⁹ <https://www.openscience.uliege.be> and https://www.openscience.uliege.be/cms/c_20521581/fr/openscience-notre-engagement

means of providing information about their policies and/or initiatives. We can therefore distinguish between different levels of dissemination, noting that the terminology is not necessarily standardised:

- **Communication** aimed at promoting the activities carried out within a project to the public, users and the media: websites, social media, science communication activities, etc.
- **Dissemination** of a project's results via articles and conferences to reach not only the academic community, but also businesses, the political sphere and the general public...
- Planning for the practical **exploitation** of the results, whether for commercial, societal or policy purposes.

GENDER AND EQUITY

Gender and equality issues are, in themselves, research topics that may be specifically supported by certain funding bodies. However, from a cross-cutting perspective, they can also be considered across an entire programme and/or set of projects, at various levels:

- Regulatory requirements, as in the case of Horizon Europe projects, where every public body must have adopted a *Gender Equality Plan* in order to be eligible for funding;
- Methodological content, insofar as sex and gender dimensions must be taken into account when defining planned research, regardless of the project's specific topic;
- Partnership composition, where the gender balance of participants may be given particular attention, or even serve as an additional evaluation criterion; for example, in Horizon Europe projects, where it constitutes the third criterion used in the event of an ex-aequo¹⁰.

SUSTAINABLE DEVELOPMENT

Several initiatives have been launched to organise discussions around the overarching theme of sustainable development. Among these, the 17 goals defined by the United Nations¹¹ are widely recognised and frequently referenced. Funding agencies may refer to them in relation to the programmes or themes of the calls for proposals they open, in order to provide political backing for their decisions. However, they may also expect applicants to describe, in the projects they submit, how the research carried out and the expected results would contribute to these goals, their targets and indicators.

¹⁰ "If necessary, the gender balance among the researchers with a leading role named in the researchers table in the proposal, will be used as a factor for prioritisation." - https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2026-2027/wp-15-general-annexes_horizon-2026-2027_en.pdf

¹¹ <https://sdgs.un.org/goals>

ULIÈGE SUPPORT FOR RESEARCH FUNDING

Where can I find useful information and specific support?

MONITORING AND AWARENESS ON FUNDING OPPORTUNITIES

The *My Research and Innovation* intranet includes (in french) :

- Current calls for projects and commissions
https://my.recherche.uliege.be/cms/c_12323482/fr/myrecherche-financement
- A description of all known funding schemes that are regularly launched
https://my.recherche.uliege.be/cms/c_11516513/fr/financements-pour-un-chercheur
- A dedicated page for mobility funding
https://my.recherche.uliege.be/cms/c_11962010/fr/financements-de-la-mobilite

Furthermore, as international opportunities can arise from a very wide range of organisations and monitoring these initiatives requires a specific tool, ULiège uses the ResearchConnect platform (<https://search.myresearchconnect.com/>). This is accessible to all ULiège members and enables a very broad monitoring of opportunities: collaborative projects, grants, awards, mobility, equipment, etc. The content is continuously edited and updated, following a standardised format that enables users to effectively understand the opportunities presented. It is also possible to set up a personalised alert system for relevant calls for proposals based on users' preferences: research field, type of funding, etc. The content focuses on international funding and therefore complements the information already available via *My Research & Innovation*.

SPECIFIC TOOLS FOR DEVELOPING AND WRITING APPLICATIONS

Also on My Research & Innovation, RISE provides a toolkit containing specific resources for setting up certain types of projects: https://my.recherche.uliege.be/cms/c_15933978/fr/myrecherche-monter-un-projet-de-recherche

INSTITUTIONAL INITIATIVES ON CROSS-CUTTING ISSUES

ULiège has developed specific initiatives relating to several of the topics mentioned above.

Ethics and Integrity: https://www.recherche.uliege.be/cms/c_9022717/en/ethics-and-scientific-integrity

Open Science: <https://www.openscience.uliege.be>

Data Management: https://my.recherche.uliege.be/cms/c_15934027/fr/myrecherche-gestion-des-donnees-de-ma-recherche

Communication: https://my.recherche.uliege.be/cms/c_15946806/fr/myrecherche-communication

Gender and equality: https://www.uliege.be/cms/c_11572857/en/gender-and-equality

Sustainable development: https://www.durable.uliege.be/cms/c_10382815/en/durable/
https://www.uliege.be/cms/c_19589511/en/digital-responsibility-at-uliege

CONTACTS

ULiège – RISE

Cellule Montage et Gestion de Projets

recherche@uliege.be