

The Austrian Science Fund (FWF) in the international context

Introduction

Scholarly exchanges, cooperation and competition across national boundaries are now typical characteristics of today's global system of science and research. The trend toward international cooperation has accelerated noticeably in recent years. For example, between 2000 and 2009, the share of scholarly publications involving authors from at least two EU countries rose by 36%.¹ By 2010, the share of publications written by Austrian scientists and researchers in cooperation with international authors had already reached 56%.² However, according to the *Innovation Union Scoreboard 2011*,³ Austria still lags behind comparable small and medium-sized European countries with strong science and research communities in terms of the share of international co-publications per million inhabitants.

The need to integrate complementary expertise and to achieve international visibility through cross-border cooperation arrangements is naturally greater in the scientific communities of small countries with strong science and research bases. National research funding agencies need to account for this trend and to develop suitable instruments and measures in order to support the internationalisation efforts of their national science and research systems, thus ensuring their international integration and competitiveness. In Austria's case, this need is highlighted in the federal government's RTI strategy,⁴ which recommends the creation of specific institutional structures within the framework of a coordinated policy for international science and research activities.

In parallel to – and in close connection with – the ongoing internationalisation of science and research efforts, the cooperation and coordination process has also intensified among various actors at the level of science and research policy, be it within European institutional structures or through cross-border cooperation in umbrella organisations of funding agencies, research bodies, universities and academies of sciences. In this context, actors at the national level have a responsibility to help shape the process by taking on an active role in the international research policy discourse, thus supporting the international ability to create links between national science and research systems.

The FWF has recognised the importance of these developments⁵ and is actively involved in shaping them:

- **As Austria's most important funding agency for basic research**, the FWF makes efforts to ensure that its funding portfolio provides scientists and researchers in Austria with outstanding opportunities to cooperate with their colleagues abroad.
- **As an active stakeholder in science and research policy** with close connections to the Austrian scientific community, the FWF also works at the international level to help shape the global science and research arena.

¹ Innovation Union Competitiveness Report. 2011 edition. European Commission, 2011: 28.

² See <http://www.scimagojr.com/countrysearch.php>

³ Innovation Union Scoreboard 2011. European Commission, 2012.

⁴ *Becoming an Innovation Leader. Strategy for research, technology and innovation of the Austrian Federal Government.* Austrian Federal Chancellery, 2011.

⁵ In 2011, approximately 14% of the FWF's funding budget was allocated directly to internationalisation efforts.

- At the **procedural level**, the FWF makes efforts to contribute to the development of international standards and to base its administrative procedures on international models of best practice.

How the FWF supports international cooperation

Internationalisation as a principal objective in funding activities

In essence, the FWF regards the development of cooperation arrangements with scientists and researchers from outside Austria as a process of self-organisation on the part of the scientific community, and the FWF supports this process by offering suitable funding instruments. The generally increasing importance of quality-assured, third-party-funded research certainly also applies to international cooperation activities. In this context, there is an increasing need to provide a secure financial basis for opportunities to cooperate with international partners, thus enhancing the efficiency of cooperation. Organised forms of cooperation can create a competitive advantage for a country's scientific community.

In this context, the FWF focuses on scholarly and scientific standards and views the specific forms of administrative support as an *extension* of the possibilities for science and research-driven cooperation rather than focusing on selected subject areas or geographical areas from the top down. This bottom-up approach provides research institutions with an opportunity to realise their own strategic objectives with support from the FWF's quality-assured programmes. At the same time, the FWF supports the strengths of the Austrian scientific community by taking part in programmes dedicated to specific subjects.

In general, the FWF strives to leverage synergies in cooperation with partner organisations both within and outside Europe in cases where the FWF's procedure-related quality standards are met and where its latitude for action is preserved.

Individual cooperation arrangements

Funding for individual cooperation arrangements with researchers abroad represents an important opportunity to support international scholarly exchanges; the FWF offers funding for such cooperation arrangements across multiple programmes.⁶ This low-threshold form of support for international cooperation is not coordinated at the level of funding agencies, nor is additional funding provided for the cooperation partners abroad. The prospects for expanding the opportunities available in this context are to be considered with due attention to ensuring a maximum of flexibility and effectiveness for the Austrian scientific community.

⁶ In more than half of all ongoing FWF projects, researchers have taken advantage of this funding opportunity. In this context, most cooperation partners are from Germany, followed by the US, UK, France, Switzerland and Italy.

International mobility

The increasing mobility of scientists and researchers is among the key characteristics of a globalised science and research system. Leveraging this phenomenon for the benefit of Austria as a science and research location is an essential element of the FWF's internationalisation efforts, especially its support for "brain circulation". This is achieved through specific funding programmes for incoming and outgoing scientists and researchers⁷ for the purpose of strengthening human resources, and through general support measures such as the ability to continue previously initiated projects under certain conditions when a researcher switches institutions ("Money follows Researcher"⁸), funding for project costs in developing countries, the ability to apply for certain programmes from abroad (regardless of the applicant's nationality), and the possibility of employing international project staff in ongoing FWF projects.

Agreements with international partner organisations

The FWF's objective is to support sustained research cooperation arrangements through coordinated administrative procedures with partner organisations abroad in order to coordinate the funding of transnational research projects.

In this context, the FWF maintains a number of cooperation agreements with international partner organisations. These agreements are designed to enable the joint funding of closely integrated, generally bilateral research projects for which funding must be secured both in Austria and in the partner country. These agreements focus on enabling joint transnational research work in which all of the research partners involved benefit from the others' complementary expertise. In line with its bottom-up approach, the FWF makes efforts to ensure that its calls are as broadly defined and as open to various subjects as possible in order to enable large parts of the Austrian scientific community to participate. The FWF's support of networking activities also gives rise to concrete prospects in this area.

Given the FWF's limited administrative resources and its ongoing efforts to ensure the efficient use of funds, two ideas are especially important in the FWF's selection of partner organisations: On the one hand, the FWF adheres to a *demand-based policy* for which the extent of existing joint research activities are a key criterion. On the other hand, the FWF also pursues a *supply-oriented policy* and provides the Austrian scientific community with opportunities to cooperate with countries where the level of research cooperation with Austria is still relatively low but where the partner countries exhibit high research potential, and where coordination at the funding agency level supports the development of cooperation relationships due to the specific administrative conditions for research funding. In this way, the FWF provides the Austrian scientific community with opportunities to benefit from emerging research capacities.

In addition to the European Research Area, in particular the large countries with strong research bases and Austria's neighbouring countries (with which Austria has traditionally maintained close research ties), the FWF's efforts in this context mainly focus on (North) America and Asia.

⁷ Meitner Programme, Schrödinger Programme, DK Programme.

⁸ An initiative launched by Science Europe.

Multinational networks

Multinational networks (e.g. in ERA-Nets⁹) can provide fresh impetus in specific subject areas and help researchers achieve critical mass at the European and global level. In this context, the FWF focuses on activities which create direct added value for the Austrian scientific community, such as the establishment of sustainable transnational research programmes. In this context, it is also necessary to consider aspects of the FWF's organisational development with regard to opportunities for mutual exchange with partner organisations.¹⁰ By participating in these initiatives, the FWF enables the Austrian scientific community to bundle and integrate research activities at the project and programme level. The criteria for FWF involvement are the relevance of each initiative to the Austrian scientific community, the extent to which relevant partner countries are involved, and the conformity of procedures with the FWF's quality standards.

Optimised procedures

Efficient and transparent procedures are of crucial importance to the FWF, especially in its international activities. With regard to the procedures used and the funding of national involvement in international research programmes, the FWF supports the subsidiarity principle in order to ensure sustainable cooperation at the funding agency level. This also applies to funding models for transnational projects, where the added value of cross-border funding is weighed in connection with the sustainability of cooperation models. The objectives are to make administrative procedures as compatible with national procedures as possible, to minimise organisational effort, to keep procedures as simple as possible and to avoid redundant efforts. Within the framework of the review and decision procedure in particular, this requires innovative solutions to be developed in close cooperation with international partner organisations (e.g. the lead agency procedure¹¹). In this context, the FWF has been involved in developments which now serve as models at the European level.

The FWF's activities as a stakeholder in international science and research policy

The increasing globalisation of the science and research system means that many issues can only be resolved appropriately at the international (including the European) level, and that research policy efforts are undertaken with concrete effects on national science and research systems. The related international discourse on science and research policy involves actors from a wide variety of fields, including national ministries and funding agencies, research institutions and research bodies, and supranational actors such as the European Commission and the umbrella alliances of national organisations. Among these institutions, the FWF sees itself as an organisation representing the

⁹ ERA-Net Scheme of the European Commission for the coordination of national research funding activities.

¹⁰ cf. FWF ERA-Net Strategy, 2006 (http://www.fwf.ac.at/de/downloads/pdf/fwf-strategie_era-net.pdf, in German).

¹¹ An initiative of the DFG, FWF and SNSF.

interests of Austrian research and pursues the objective of enhancing the development opportunities and international integration of the Austrian research community in general, without attention to subject-specific or regional focuses.

In this context, the FWF supports the activities of Science Europe in order to maintain a structured exchange with relevant international actors and to represent the policy approach of national research funding agencies at the European level, and at the same time in order to develop the joint measures summarised in the EUROHORCS/ESF Vision on a Globally Competitive ERA and Road Map for Actions,¹² which Science Europe has continued to develop.

At the national level, the FWF is committed to working with policymakers and stakeholders to realise Austria's international positioning within the framework of the federal government's RTI strategy in order to develop a coordinated international science and research policy.

European Research Area

The FWF generally welcomes activities designed to integrate national initiatives in the European context as long as real added value is created and a balance is maintained between cooperation and competition at the European level; this also applies to research policy approaches as well as funding and support measures. Diversity is one of Europe's greatest strengths, and thanks to their detailed knowledge of national systems, national organisations can respond to new challenges in a rapid, innovative and targeted manner. These capacities should be strengthened through coordinated measures at the European level.¹³

The FWF also favours initiatives to support basic research at the European level, especially the activities of the European Research Council. The FWF supports this development in its activities on the national and European stage¹⁴ and has designed its funding portfolio in a complementary manner in order to maximise the benefit of European initiatives for the Austrian scientific community. In addition, the FWF also supports the initiatives of the European Commission to co-fund national funding programmes as well as the joint funding activities of national organisations.¹⁵

International standards as guidelines for FWF procedures

The FWF funds internationally competitive research in Austria. This requires the organisation to employ international best practices at all levels. Internationalisation is therefore part of the FWF's day-to-day practice with regard to procedures and operational processes.

¹² www.scienceeurope.org

¹³ cf. Science Europe / EUROHORCS vision for the realization of the European Research Area.

¹⁴ Membership in the IDEAS Programme Committee, support of Austrian applicants in cooperation with the FFG.

¹⁵ EU COFUND and ERA-NET Plus programmes.

International review of project applications

In its funding activities, the FWF is committed to the highest international standards. In order to fulfil these standards, the FWF only requests peer reviews from reviewers based outside of Austria whose expertise best covers the requirements of each application in terms of disciplines, methods and paradigms. This practice is a prerequisite for ensuring that the projects funded by the FWF are competitive at the international level, thus making a substantial contribution to quality assurance in the Austrian science and research system.¹⁶ As a result, FWF-funded projects receive substantially more citations than the Austrian average in each discipline.¹⁷

International evaluation of funding programmes

In order to verify the effectiveness and impact of its funding measures, the FWF's funding instruments are evaluated on a regular basis.¹⁸ In these evaluations, the FWF relies exclusively on expert evaluators with international experience. The results of these programme evaluations are taken into account in the ongoing development of funding instruments and ensure the programmes' compliance with international standards as a key prerequisite for the international competitiveness of FWF-funded research.

Integrity and ethical issues in research

Ethical issues and matters of research integrity are currently a hotly debated topic all over the world. In international comparisons, national science and research systems are often assessed in terms of how they deal with cases of potential scientific misconduct and with ethical issues. In this regard, as an initiator and founding member of the Austrian Agency for Research Integrity,¹⁹ the FWF has established a clear framework based on international standards.

Open access

Ensuring open access to the results of publicly funded academic research can be regarded as one of the main challenges in the global science and research system; this challenge can only be surmounted by means of an internationally coordinated procedure. As a signatory to the *Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities*, the FWF is committed to supporting and promoting sustained open access to scholarly publications and research data. To this end, the FWF requires all project leaders and staff members to make their publications freely available through open access media on the Internet.

¹⁶ This is evident in the FWF's track record of successful ERC grant applicants.

¹⁷ See

https://www.fwf.ac.at/fileadmin/files/Dokumente/Ueber_den_FWF/Positionspapiere/der_wettbewerb_der_nationen.pdf

¹⁸ See <http://www.fwf.ac.at/en/about-the-fwf/publications/>

¹⁹ <http://www.oewi.at>

Human resources

As the FWF funds the salaries of more than 3,500 positions²⁰ in science and research, the organisation also takes responsibility for the development of human resources in its area of activity. On the basis of international best practices, the FWF has also developed a set of standards for gender equality.²¹ The FWF's activities to implement the recommendations of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers²² have been recognised by the EU in the Human Resources Strategy for Researchers (HRS4R)²³ initiative.

²⁰ As of 2011.

²¹ http://www.fwf.ac.at/fileadmin/files/Dokumente/Ueber_den_FWF/Gender_Mainstreaming/FIX_/Equal-Opportunities-in-Research-funding_FWF.pdf

²² <http://ec.europa.eu/euraxess/index.cfm/rights/recommendation>

²³ <http://ec.europa.eu/euraxess/index.cfm/rights/strategy4Researcher>