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CHEMISTRY RESEARCH FUNDING SCENE IN FRENCH-SPEAKING PART OF BELGIUM

OVERVIEW

Belgium is a federal state, with one central ('federal') government, one government for each region (Flanders, Wallonia, and Brussels), and one government for each community (Dutch-speaking, French-speaking, German-speaking). Understandably, this makes the description of any public activity, including research funding, quite complex. Regions are in charge of the policy of economic matters, among others, while communities are in charge of the policy of 'personal matters', such as culture, sport, and education.

Situation of funding of chemistry research for French-speaking universities

There are nine universities for a total of sixty thousands students, including about five thousands postgraduate students. The research groups in those institutions can apply for funding at agencies related to the government of the French-speaking community (FSC), the government of the Region of Wallonia (RW), and the federal government. Research groups from Dutch-speaking universities can apply to agencies related to the Flemish government (formed by the merging of the Flanders region and the Dutch-speaking community). The government of the Brussels region has very little funding capacity; depending on their language, the universities located in Brussels can apply either to the Flemish agencies or to the French-speaking agencies. There are no universities in the German-speaking community.

In the French-speaking part of the country, fundamental research is mostly funded by the Fonds National de la Recherche Scientifique (FNRS). The resources of FNRS mostly come from the FSC government (71 millions euros for 2005) and are used to support activities across the whole research spectrum (hard sciences, humanities, life sciences, ...). FNRS has 36 discipline-based committees, three of those being dedicated to chemistry (Applied Chemistry and Metallurgy; Mineral and Organic Chemistry; Physical Chemistry). Each year, the global resources are split among the committees and funding is allocated by the committees to research projects, following the procedure described in detail in the questionnaire.

Another major player in research funding is the Ministry of the Region of Wallonia. In 2003, the amount dedicated to support research activities was around 72 million euros. Because of its status, RW directs its funding towards applied research or 'application-oriented' research. Among the instruments used for funding are joint industry-university projects (the company and RW share the research costs) and networks of academic research groups aimed at developing innovating technologies. It is to be noted that the concept of 'application-oriented' research is rather flexible, so that fundamental research with some long-term prospects for application can be funded. In contrast to FNRS, funding at RW is not earmarked by discipline, but rather attached to interdisciplinary themes (e.g., sustainable energies, biomaterials, information technologies,...). It would therefore be very difficult to estimate the amount of funding directed to chemistry research from the RW level.

Besides this, the federal government has set up a funding organization, called 'Office of Federal Science Policy', which, among other things, supports 36 national research networks (i.e., networks with partners from all three regions) for five-years periods, renewable. Those networks carry out fundamental research. The largest of those networks is fully dedicated to chemistry. It is entitled 'Supramolecular Chemistry and Supramolecular Catalysis' and its funding is about 2 million euros per year.

Finally, the universities also have internal research grants that are distributed after evaluation by an internal research committee. In most cases, those resources are earmarked by faculty (sciences, medicine, engineering,...), rather than by discipline. It is therefore impossible to estimate how much is dedicated to chemistry research. Moreover, such funding sources are highly variable from one university to another and from one year to the next, depending on the budgetary conditions.

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Funding figures

FNRS's funding for chemistry research was about 2.8 million euros in the year 2002. FNRS is a funding organisation for basic research for researchers from the French-speaking Community of Belgium. About 90 % of basic research in the French-speaking Community of Belgium is funded by FNRS.

Position, aims, strategies

FNRS is an institution of public utility and is responsible for the basic research in the French speaking Community of Belgium. FNRS funds all kind of disciplines.

FNRS is collaborating with the Ministry of the Walloon region which funds applied research in the French-speaking Community of Belgium. At another level, FNRS is collaborating with the Federal Ministry of Research which funds major projects such as CERN or ESA. No actors outside are involved in the preparation of FNRS's strategies.

The main strategy of the FNRS follows a bottom-up principle. Funding is based on scientific excellence. Decisions are taken by the Governing Council.

There are no specific strategies and priorities for chemistry funding. The main strategy of FNRS is based on scientific excellence. All projects are submitted to expert panels (scientific committees) organised by research disciplines or research sub-disciplines. A project can be submitted in one or more panels. For instance a project related to chemical physics can be submitted in two panels: chemistry and physics.

Decision making and evaluating bodies

Scientific Committees. The first level of decision making bodies are the scientific committees. The scientific committees are made up of 10 scientific experts of the specific field: 5 French-speaking members, 5 members from outside the French-speaking Community.

Governing Board and Governing Council. The scientific committees pass on proposals to the Governing Board and the final decision is taken by the Governing Council.

Funding instruments

The Fund supports individual researchers by awarding temporary grants, either while they prepare their theses in the case of degree candidates (maximum funding period: 2 x 3 years) or throughout the subsequent period in the case of research team leaders. The Fund also provides permanent remuneration for qualified researchers, scientific research workers and research managers. There is no time restriction for permanent remunerations; these researchers do not have teaching duties.

In addition to these individual contracts the FNRS gives researchers credits (up to 40.000 euros) as well as allowances intended to cover the costs of stays in foreign countries and attendance at overseas conferences.

FNRS provides financial assistance for the organisation of seminars or symposia and promotes the formation and activities of contact groups between researchers from universities in the French-speaking Community of Belgium and their foreign counterparts.

Three associated Funds (IISN for nuclear sciences, FRSM for medicine, FRFC for interuniversity basic research projects, especially also for large equipment funded on a 50:50 share with the universities) support research programmes undertaken by teams, assuming personnel costs and equipment purchase, sometimes of a very expensive nature. The fourth associated Fund (FRIA) awards PhD grants to university graduates aiming at making a career in industrial or agricultural research.

Funding is only based on scientific excellence not taking into account whether it goes to a project, an individual or a laboratory.

Funding instruments are following:

Fixed-term mandates

PhD candidate: two years, renewable once. Enables young university students to prepare their thesis.

Research team leader: 3 years.

grant: two years, renewable once. Enables young university students to prepare their thesis.

Long-term mandates

Qualified researchers

Scientific research workers

Research managers

Three associated Funds (IISN, FRSM, FRFC) support research programmes undertaken by teams, assuming personnel costs and equipment purchase, sometimes of a very expensive nature. These conventions last 4 years, renewable once for two years.

Funding principles

Funding principles vary as the instruments have their own specificities but funding and evaluation procedures are common to all.

Following expenses can be funded: salaries and travel expenses for the mandates. The research programmes assume personnel costs and equipment purchase. Funding does not cover costs for overheads and also VAT can not be paid. Normally funds can not be used for other purposes than for those originally planned, exceptionally a dispensation can be obtained.

Young university students and qualified researchers teams can be funded. It is possible to grant funding to a foreigner if he works in a laboratory of the French-speaking community. It is also possible to fund permanent staff. The money follows researcher scheme is not applicable.

Application processing and peer review

There are specific calls and all proposals must be submitted by the 1st of February except for the FRIA call which can be submitted in September. It takes about 4 months from application to decision.

Applicants are required to submit their CV, the research project (3 pages) and an application form. Applications may be submitted electronically or on paper. Applications are required in French language.

The proposals are sent to the administration of the FNRS. If the proposal is eligible it is sent to the members of scientific committees. Each member receives all the proposals related to its scientific committee. The scientific committee meets and then sends its advices to the Governing Board. The final decision is taken by the Governing Council.

Evaluation of proposals is based on a scientific peer review. Reviewers are senior researchers, known for their scientific excellence, who are chosen by the review panel members. About 50 % of all reviewers are international evaluators. Reviewers are committed for the period of 5 years, renewable once. Reviewers are not paid for the evaluation of the projects. It is not possible for applicants to propose reviewers. For some instruments (long-term mandates), the applicant is asked to give the names of five referees, who are then contacted by FNRS. For all the other instruments, the reviewing is done by the reviewers in the panel.

Specific evaluation criteria are the project's feasibility, originality, the team's composition, the scientific background, the scientific track-record of the promoters and scientists taking part in the research programme under consideration, and any linkages the programme might offer, at European or international level. There are no specific evaluation forms available.

Applicants are not given a chance to improve their proposals before decision-making on the basis of the evaluation.

Decision-making and follow-up

Research positions and agreements are granted on the basis of advice from competent scientific committees based on the above mentioned specific evaluation criteria. These scientific committees are made up of 10 scientific experts of the specific field: 5 French-speaking members and 5 members from outside the French-speaking Community. The

scientific committee sends its advices to the Governing board and the final decision is taken by the Governing Council.

The scientific committee is based at the FNRS office. Reviewers receive all the applications before the meeting takes place. The 10 members on the panel process the proposals submitted, usually there are 10 to 15 applications in the field of chemistry. The final evaluation is prepared by written classification. Applicants receive a formal letter as a feedback from the evaluation and decision-making process. Applicants do not receive the evaluations but the names of the reviewers are available on the FNRS website.

Besides scientific quality, funding is granted according to the funds available. There are fixed amounts of funding e.g. fixed salary categories for persons. Sometimes, due to a greater need of funds (e.g. large number of proposals of high scientific quality), budgets can be cut.

On average about 40% of the applications are funded.

Projects are required an intermediary report and a final report. A 5-year report is required for permanent researchers. The reports are processed and evaluated by the scientific committee to which the proposal was submitted. The report after the first 2 years is used to determine the funds to be granted for the second funding period of 2 years.

Legal and administrative considerations

Granting funding abroad. Foreign persons working in laboratories of the French-speaking Community are subject to the laboratory's regulations.

Conflict of interest. The FNRS does not have laboratories of its own. Its researchers work in laboratories housed within the universities of the French-speaking community of Belgium. Regulations are those applied by the universities. Final funding decisions are not taken by a single reviewer but by the scientific committee as a whole (10 persons) and must then be confirmed by the Governing Board and the Governing Council. A conflict of interest is perceived in case of an application of a panel member.

Publicity. All calls for proposals are publicly advertised (FNRS and universities websites).

Intellectual property rights. Regulations applied by the laboratories. Moreover, the applications are strictly confidential and the committee members are not allowed neither to disclose the content of the proposals nor to use in their own research activities.

Research ethics. Helsinki Declaration. Additionally a form must be filled by the promoters.

Gender Equality. All eligible applicants have the same opportunities, no discrimination is tolerated.

Obstacles and best practices for transnational research programmes

FNRS has no experience with common-pot programmes but is acquainted with jointly funded research projects or programmes such as the ESF EUROCORES, CERC3 and other transnational initiatives.

According FNRS main obstacle for jointly funded chemistry research programmes within European countries would be deadline mismatch, as all applications have to be received by end of January and decided once a year end of June, application processing, as all proposals have to be examined by FNRS panels, and the decision-making process. Best proposed practices would be a two stage application system, a peer review evaluation system and panel and decision of funding based only on scientific excellence.