

Guidelines

New Instrumentation for Research



I Programme Information

1 Objective

The DFG provides funding in the fields of Scientific Instrumentation and Information Technology for instrumentation and instrumentation-related projects at research institutions. In the New Instrumentation for Research programme, projects are funded with the aim of developing and testing technically and methodologically novel types of research instrumentation.

The funds awarded for a project should initially be used to set up a functional model in the laboratory with which the new technology can be tested and ultimately the key experiment can be carried out that proves the effectiveness of the new method for use in research (i.e. the "proof-of-principle"). If this is successful, funds for a follow-up project can be requested to set up a practical demonstrator and to carry out a pilot project to obtain initial research results using the new device technology. If a working demonstrator has already been developed, a project for the practical testing of this new device technology for use in research can also be applied for directly.

One focus of the programme is on interdisciplinary projects that cannot be readily assigned to the DFG's subject classification system. Through the development and construction of a research instrument in one field for use in another research field, it is intended to test novel approaches across disciplines and thus find exploratory ways to answer open questions in research.

The proposal must convincingly show what new research approaches will be possible in the future with the research instrument to be developed and how new knowledge can be gained in science through its use. Ideas for new research devices should therefore be clearly distinct from device technologies already available on the market. Mere improvements to existing technologies and instrumentation, e.g. in terms of accuracy, sensitivity, resolution, energy efficiency, user-friendliness or similar, or the updating of already known approaches or the gradual improvement of existing device technology generally does not meet this requirement.

The proposal should address the following questions:

- What is novel about the method or technique on which the instrument is based?
- Where and how will the new instrument be used in research?
- What new answers to questions in research is the use of the instrument expected to deliver?

- Will the development and testing of the demonstrator or carrying out the key experiment in the laboratory itself already yield new scientific results?
- How will (early career) researchers involved in developing the technology and constructing the demonstrator benefit from these activities?

If you have any further questions about this funding programme, DFG Head Office staff will be happy to advise you, especially if your proposal does not seem to fit into the programme.

2 Proposals

2.1 Eligibility

Researchers in Germany or those working at a German research institution abroad who have completed their academic training (a doctorate as a rule) are eligible to apply for DFG grants. In general, you are not eligible to submit a proposal if you work at an institution that is not non-profit or one that does not allow immediate publication of research findings in a generally accessible form.

The purpose of funding for ‘Scientific Instrumentation and Information Technology’ is to achieve improvements to nationwide instrumentation-based research infrastructures that benefit the research community as a whole. Taking into account the Guidelines on the Duty to Cooperate (DFG form 55.01):

www.dfg.de/formulare/55_01,

employees of institutes and member institutions of the Max Planck Society, the Fraunhofer-Gesellschaft, the Helmholtz Association, the Leibniz Association and employees of publicly funded research institutions associated with these organizations, together with employees of internationally funded research infrastructure facilities in Germany, are also eligible.

2.2 Proposal requirements and funding conditions

2.2.1 Project requirements

Taking into account the extensive development and production work to be undertaken as part of the project, the availability of internal workshop facilities, experimental facilities and laboratory space is a requirement for funding. The outsourcing of work to third parties (especially commercial, non-university service providers) is only permitted in exceptional cases that have been duly justified.

2.2.2 Project results

All findings and knowledge generated through the project and use of the demonstrator may be protected by patents at the applicants' own cost. However, they must be made accessible to the scientific community and available for reuse, at no charge, by third parties engaged in publicly funded research. If you wish to further develop the demonstrator towards a prototype in the pre-competitive phase with the help of non-publicly funded partners (in industry), please note that DFG funding is available for knowledge transfer.

2.2.3 Financial contributions

The applicants, or the institutes participating in the proposal, are expected to provide an appropriate financial contribution/core support, e.g. in the form of funding for staff and direct project costs, and in particular by making their own resources available when using workshops and laboratory facilities. The availability of these internal contributions must be demonstrated in the proposal.

Is the project proposal to the DFG aiming to establish or support a long-term, potentially nationwide item of research infrastructure, it is expected that the proposal will be submitted and supported by, or in conjunction with, an institution that is able to assure the continuation of the project and the long-term operation of the infrastructure.

2.3 Relationship to other funding programmes

Proposals that have already been processed and rejected in other DFG funding programmes can only be submitted in the New Instrumentation for Research programme after thorough revision and only if all points in these guidelines are explicitly followed. Projects that aim to test new methods or technologies for the applicant's own research area or develop instruments for use in the applicant's discipline should generally continue to be proposed as research grants in line with the DFG's subject classification system.

2.4 Format and deadline

Proposals may be submitted to the DFG at any time. Proposals are structured in accordance with the Proposal Preparation Instructions (DFG form 54.01).

www.dfg.de/formulare/54_01

3 Duration

The maximum funding duration is initially three years. A renewal proposal may subsequently be submitted.

II Proposal Modules

Proposals must be submitted electronically via the DFG's elan portal. Under this funding programme, you may submit one or more of the following modules. For more details, please see the respective guidelines for each module.

1 Basic Module

Use the basic module to request funding for direct project costs, project-specific staff, and instrumentation necessary to carry out the project.

www.dfg.de/formulare/52_01

The following can be funded under the programme:

- Staff costs
- Parts, components and (consumable) materials for carrying out the key experiment and/or constructing, building and testing the demonstrator
- Special components or auxiliary equipment to expand the laboratory for the specific needs of the project
- Workshop and manufacturing costs (materials and parts)
- Costs for software or software development specifically required for the project
- Orders for the design and construction of special parts, where these cannot be designed or made in the applicants' own workshops
- Workshop events and travel expenses for meetings between development project participants and/or testing of the new research demonstrator
- Project-related publication costs

Funding is not available for:

- Core support (including the replacement or maintenance of core equipment)
- Computers or related IT components (unless required for the operation of the instrument)
- Design studies or development work outsourced to commercial companies

2 Project-Specific Workshops Module

If you would like to conduct workshops as part of your project, you may request funding to help you do so. Please note that this module cannot be submitted separately but only in conjunction with the proposed project.

www.dfg.de/formulare/52_06

III Obligations

In submitting a proposal to the DFG, you

1. agree to adhere to the **principles of good scientific practice**.¹
The principles of good scientific practice include, among others: maintaining professional standards, maintaining strict honesty with regard to one's own contributions and those of third parties, documenting results and rigorously questioning all findings.
2. recognise the DFG's **Rules of Procedure for Dealing with Scientific Misconduct** (Verfahrensordnung zum Umgang mit wissenschaftlichem Fehlverhalten - VerfOwF)² as legally binding.

Scientific misconduct is defined as the intentional and grossly negligent statement of falsehoods in a scientific context, the violation of intellectual property rights or impeding another person's research work. The circumstances of each case will be considered on an individual basis. In cases where scientific misconduct has been established, the DFG may impose one or more of the following sanctions in accordance with its Rules of Procedure, depending on the nature and severity of the scientific misconduct:

- issuing a written reprimand to those involved;
- exclusion from the right to apply for DFG funds for a period of one to eight years, depending on the severity of the scientific misconduct;
- revoking funding decisions (full or partial termination of the grant contract, demanding repayment of funds spent);
- demanding that those concerned either retract the discredited publications or correct

¹ The principles of good scientific practice can be found in detail in the DFG [Code of Conduct - Guidelines for Safe-guarding Good Research Practice](#) and in the [Funding Guidelines: General Terms and Conditions of DFG Grants](#) (DFG form 2.00).

² [DFG Rules of Procedure for Dealing with Scientific Misconduct, DFG form 80.01](#)

the falsified data (in particular by publishing an erratum), or appropriately indicate the DFG's retraction of funding in the discredited publications;

- exclusion from serving as a reviewer for a period of one to eight years, depending on the severity of the scientific misconduct;
- exclusion from membership in DFG bodies and committees for a period of one to eight years, depending on the severity of the scientific misconduct;
- denying voting rights and eligibility in elections for DFG bodies and committees for a period of one to eight years, depending on the severity of the scientific misconduct.

By accepting funding, the recipient agrees to

3. use the grant exclusively and in a targeted manner to implement the funded project. The use and accounting of funds must conform to the relevant regulations of the DFG.
4. submit progress reports on the research according to the dates specified in the award letter and to present financial accounts to the DFG detailing the use of funds.

The DFG expects that the findings of the projects it funds be made available to the public.

IV Data Protection

Please note the DFG's data protection notice on research funding, which can be viewed and downloaded at www.dfg.de/privacy_policy. If necessary, please also forward this information to those individuals whose data will be processed by the DFG due to their involvement in your project.

www.dfg.de/privacy_policy

V Review Process

The review and decision-making processes follow the standard criteria and procedures, explained in the General Guidelines for the Written Review (DFG form 10.20)

www.dfg.de/formulare/10_20

but with programme-specific provisions and assessment by separate bodies (DFG form 10.214).

www.dfg.de/formulare/10_214

VI Information

For further information, please get in touch with the contact persons in the Scientific Instrumentation and Information Technology Division. A detailed overview of contact details, responsibilities and funding opportunities in the DFG's Scientific Instrumentation and Information Technology programmes is available on the DFG website.

www.dfg.de/wgi/en