

Guidelines

New Instrumentation for Research



I Programme Information

1 Objective

In the area of Scientific Instrumentation and Information Technology, the DFG provides funding for instrumentation and instrumentation-related projects at research institutions. The aim of the programme "**New Instrumentation for Research**" is to fund the development of completely novel instrumentation for use in basic research. To this end, a functional demonstrator should be developed and constructed during the project, which can then be used – possibly in a subsequent renewal proposal – as part of initial research projects. Special emphasis is given to interdisciplinary projects that cannot be readily categorised in the DFG's subject classification system (e.g. the development of a research instrument in acoustics for basic research in cultural anthropology). By funding the development and construction of new instrumentation in one field for use in another field, it is intended that novel solutions be tested across disciplines to enable researchers to seek answers to urgent questions in basic research with the aid of new strategies.

The proposal must present a convincing description of what new research approaches will be possible with the instrument to be developed, and how its use will enable new research findings to be made. Ideas for new research instruments should therefore be clearly distinct from technologies already available on the market. Improvements to existing technologies and instruments, e.g. in terms of accuracy, sensitivity, resolution, energy efficiency or user-friendliness, are not sufficient. The proposal must explain how the new technology is initially to be validated in the laboratory and then implemented in the form of a new research instrument for use in basic research. The requested funds must cover the development, construction and initial testing of the instrument. The applicants should also briefly describe, ideally with the help of potential users, how the instrument may then be used in a subsequent research project and what new knowledge can be anticipated through its use.

The proposal should address the following questions:

- What is novel about the method or technique on which the instrument is based?
- What new answers to questions in basic research is the use of the instrument expected to deliver?
- How and where is the new instrument intended to be used in research?

- Will new scientific findings already be generated through the development of the instrument?
- 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), employees of institutes and member institutions of the Max Planck Society, the Fraunhofer Society, the Helmholtz Association, the Leibniz Association and employees of publicly funded research institutions associated with these organisations, together with employees of internationally funded research infrastructure facilities in Germany, are also eligible.

www.dfg.de/formulare/55_01

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 prototype 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 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

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

The following can be funded under the programme:

- Staff costs
- Parts, components and (consumable) materials for the testing of the technology and the development and design of the new research instrument
- Special components or auxiliary equipment to expand the laboratory for the specific needs of the project and to build the new research instrument or demonstrator
- Consumables and costs for trials and test operation of the new research instrument
- 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 instrument

- 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

III Obligations

In submitting a proposal for a research grant to the DFG, you agree to

1. adhere to the **rules of good scientific practice**¹.

The general principles of good scientific practice include, among others: maintaining professional standards, documenting results, rigorously questioning all findings, and attributing honestly any contributions by partners, competitors and predecessors.

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, 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 (complete or partial cancellation of the grant, recalling granted funds, demanding repayment of funds spent);

¹ The rules of good scientific practice are presented in detail in the white paper entitled '[Safeguarding Good Scientific Practice](#)' and in the '[Funding Guidelines - General Terms and Conditions of DFG Grants](#)' (DFG form 2.00).

- demanding that those concerned either retract the discredited publication or correct the falsified data (in particular by publishing an erratum), or appropriately indicate the DFG's retraction of funding in the discredited publications;
- exclusion from acting as a reviewer or from membership of DFG 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 statutory 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

2. 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.
3. 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.

Unless otherwise specified in these guidelines, the obligations and regulations regarding the publication of grant holder and project data set out in the Guidelines for the Research Grant Programme (DFG form 50.01, sections III and IV) apply.

www.dfg.de/formulare/50_01

IV 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

V 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