

**Information for  
Applicants 117**

## **Change of Course – Exploring New Research Territories between the Life Sciences and Science or Engineering**

**Next Deadline: [see website](#)**

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## I. Objectives

Many challenging fields of future research go beyond a single discipline's body of knowledge. This also holds for research overlapping the life sciences on the one hand and mathematics, engineering, computer and natural sciences on the other. The quality of cooperations, posing original research questions and scientific breakthroughs crucially depends on the fact that an academic team is qualified across disciplines and has a capacity to understand and to judge in the other discipline.

Some examples for current fields which require an interdisciplinary approach are given here. The following list is not comprehensive and does not rule out other topics at the interface of the mentioned areas of knowledge:

- cognitive computing and neuro-inspired technologies;
- immunophysics and immunoengineering;
- nanotechnologies and new nonlinear optical methods for biomedical research;
- molecular bioengineering and hybrid devices (via functional linkage with living cells);
- bioelectronics, biofabrication and bio-inspired energy conversion.

Complex questions in such interdisciplinary fields can only be solved if knowledge from several domains is used and further developed. For visionary, ambitious and radically new solutions genuine border crossers are needed, who can penetrate and bring in the wealth of knowledge of complementary scientific disciplines in addition to proven expertise in their own field.

The initiative 'Change of Course' intends to pave the way for an academic group into a new future-oriented field of research that goes beyond the boundaries of one's own discipline. The purpose of funding is an additional qualification of a team, motivated by a topic in the overlap of mathematics, computer science, natural sciences, technology on the one hand and the life sciences on the other. It remains the task of the applicant to define an under-researched topic, which requires an interdisciplinary approach, to design a convincing concept for the development of the required expertise from another field and to integrate any necessary partner institutes in Germany and/or from abroad.

## II. Funding Opportunities

The initiative addresses outstandingly qualified scientists who are dedicated to pioneer a new interdisciplinary research agenda with their team and who would like to acquire in-depth expertise in a complementary scientific discipline. Thus, the funding allows to gain scientific experience and inspiration outside of one's own academic environment, to implement respective approaches and to optimally position the team for interdisciplinary challenges. Life scientists can apply for an excursion into the natural or engineering sciences, including mathematics and computer science. Natural or computer scientists, mathematicians or engineers can venture into the life sciences. The Foundation likes to particularly encourage genuine life scientists to acquire knowledge and skills in the so-called "hard" subjects.

The Foundation is open for all original qualification concepts involving a small team including the team leader or professor, respectively. Depending on the specific requirements a variety of qualification measures can be implemented (also in purposeful combination of individual building blocks), as for example laboratory work in a completely different scientific environment, lab rotations, research stays abroad, invitation of guest researchers, eLearning modules, virtual and real workshops etc.

Ideally, the concept has a model character for other interdisciplinary topics and combinations of academic disciplines.

A forward-looking, inherently interdisciplinary topic area can be chosen freely within the general scope of the initiative. It is possible to cooperate, preferably with internationally leading partner institutes in Germany and from abroad. However, support is only given for the establishment of new contacts and not for cooperations with groups that already belong to the regular partners (documented by third party funded projects or joint publications).

Depending on the preparation state of the concept three types of application are offered:

### **Qualification Concepts**

A qualification concept has to claim an intensive and sustainable engagement with complementary knowledge and new skills and has to involve several persons, including the head of the team. Ad hoc measures that could alternatively be covered by the institute's regular budget do not qualify as a concept. Rather, a typical duration of three to four years is intended, which may also be used to repeat building blocks of a concept. The flexibility of designing various qualification measures implies immediately that the budget will vary considerably from application to application. It is therefore important to calculate the budget comprehensibly in the application and to justify each item in a convincing manner. In cases of doubt, the Foundation's office may be contacted prior to submitting an application in order to discuss issues of an appropriate project scope, including the costs incurred.

### **Planning Grants**

For the support of an optional planning phase, for instance to establish contacts to far-distant academic disciplines and to jointly specify an interdisciplinary topic, a maximum of 120,000 euros for a term of 9 months to 1½ years can be applied for.

### **Additional modules (only on the basis of a granted project)**

If unforeseen opportunities arise in the context of a supported topic and appropriate funds were not included in the original application, an additional application for the following modules is possible:

- new teaching formats (including professional implementation),
- events (workshops, summer schools),
- science communication measures.

Within any type of application all cost categories can be applied for, such as scientific staff, travel, guest scientists, participation in courses, scientific events, consumables, laboratory usage fees, professional services. In case of equipment, a justification of the need against the background of existing equipment and shared infrastructure is required. Accreditation costs for new degree programs are excluded from funding.

Costs for scientific personnel should be justified with reference to the concept. Salaries are primarily intended for those project participants who plan to spend a longer period in a complementary academic environment or who work on interdisciplinary aspects. For example, funds may be requested for a temporary leave or discharge of the applicant and / or a contributing postdoc. Further, support is possible for jointly supervised, interdisciplinary PhD positions (up to four years). When applying for a PhD position, the acceptance of an interdisciplinary thesis at the responsible department must be clarified in advance, so that no disadvantage for the doctoral candidate arises. If a position holder is not yet known by name, information about the expertise needed and the pool of candidates is required in the application.

### III. General Conditions

It is intended to fund eight to ten comprehensive qualification concepts on original interdisciplinary research topics per application deadline. It is planned to consider about the same number of applications of life scientists with the intention of acquiring knowledge in a mathematical, science or engineering subject as for the opposite direction. The number of accepted "planning grants" will be roughly the same so that the resulting qualification concepts receive a realistic option for continued funding. Regular status symposia will be funded for scientific exchange and networking among the grantees' groups.

Eligible for application are group leaders (with Ph.D.) and professors from the natural, technical and life sciences. The responsible applicant must have a position at a scientific institution in Germany during the term. A successful scientific track record and, if relevant, proven academic supervision experience in order to fulfill the role of a mentor for young project participants are required. Of course, postdocs and external project partners who have worked intensively on the concept may act as co-applicants.

The Volkswagen Foundation can only award funding to scientific institutions. Applicants outside the immediate higher education sector (i.e. universities) and the well-known extramural research institutions need to separately provide information on the legal form, statutes, members of bodies and committees, charitable status, budgeting and auditing of the institution to be funded.

The Foundation only considers project-related direct costs, and does not provide funds for institutional overheads. Identical or similar applications that are pending at the same time with other funding agencies are not processed.

### IV. Application and Selection Procedure

An annual deadline is planned, which will be announced in due time on the website. Applications for qualification concepts and planning grants must be submitted with the attachments listed in Section V (Application Checklist) until the deadline (24:00), in electronic form via the Foundation's application portal.

After an in-house preliminary examination, the applications matching the initiative will be comparatively examined and discussed by an international interdisciplinary peer review panel. Key selection criteria are:

- Selected topic: originality, innovation and vision, added value of interdisciplinary approach, basic research character;
- Personal qualification: CV of the responsible applicant, experience as a scientific mentor;
- Qualification concept: analysis of existing deficits, suitability of the concept for achieving the goals, potential for sustainable impact, model character, choice of the partner institute(s);
- Further development and scientific perspective of the lab: selection of the team, profile upon reaching the goal, realization of a new research direction or unique structural innovation.

Applications for modules to running projects can be submitted at any time after the first annual interim report via the application portal of the Foundation. They are reviewed separately, usually involving members of the peer review panel and, if necessary, experts in academic teaching or science communication.

## V. Application Checklist

Applications must be submitted in English and in electronic form via the [electronic application system](#) of the Volkswagen Foundation. Each applicant, including invited co-applicants, must first register in the portal. Electronic forms must be completed with: name, institution, work address of all applicants, a brief informative project title, the duration and a structured budget. In most cases, one budget under the responsible applicant is sufficient, and the budget forms of co-applicants can remain empty. In addition, the documents listed below must be uploaded (pdf, max 10 MB each).

### For a **qualification concept**:

- Lay summary in German and in English (approx. 1,000 characters each, including spaces);
- Application text (five to six pages, not including references) considering the selection criteria under IV. and with a specific emphasis on:
  - Personal motivation and justification of the scientific topic,
  - initial situation and goals of the qualification project,
  - role of the people and institutions involved;
- Self-assessment sheet structured like the template provided on the website;
- Tabular CV of the applicant (three pages maximum with prizes, membership in boards, work as editor or elected spokesperson etc. as well as approximate number of supervised thesis, including list of max. 10 relevant publications) and, if applicable, brief tabular CV of co-applicant(s) and key persons (two pages maximum per person, including list of max. 10 relevant publications);
- If applicable: support letter or institutional declaration by the head of group of any heavily involved partner institute(s) regarding the participation in the project;
- Budget detail, i.e. justification of the necessity of each item, with list of existing equipment (own lab, shared infrastructure on site);
- If applicable: scan of a quotation for each equipment item above 10,000 EUR (incl. value added tax);
- Other enclosure: List of running and shortly finished third-party funded projects.

### For a **planning grant**:

- Lay summary in German and in English (approx. 1,000 characters each, including spaces);
- Application text (three to four pages plus references):
  - purpose and realization of the planning phase,
  - persons and institutions involved;
- Brief tabular CV of all applicants and key persons (two pages maximum per person, including list of max. 10 relevant publications);
- Budget detail, i.e. justification of the necessity of each item;
- Other enclosure: List of running and shortly finished third-party funded projects.

### For a **module application** (to an existing grant):

- Lay summary in German and in English (approx. 1,000 characters each, including spaces);
- Application text (three to four pages);

- If applicable: Brief tabular CV of new key persons involved (two pages maximum per person, including list of max. 10 relevant publications or other relevant work output). If the initial application lies back for some time, updated brief CVs of the original applicants may be added;
- Budget detail, i.e. justification of the necessity of each item.

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## **Additional Information (Web links)**

[Electronic Application System – Instructions and Tips](#)

[Application FAQs \(general\)](#)

[Information for Applicants from Abroad \(general\)](#)