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## Inhalte

### **BMBF Interaktive Technologien für die kardio-onkologische Nachsorge, Frist Projektskizze: 31.01.25**

Ziel der Fördermaßnahme ist die Steigerung der Lebensqualität und Belastungsfähigkeit im Alltag von Patienten, die sich im Stadium der Nachbehandlung einer Krebserkrankung im Sinne einer akuten oder langfristigen Nachsorge befinden. Forschungsergebnisse der innerhalb der Maßnahme geförderten Projekte sollen dazu dienen, künftige kardio-onkologische Nachsorgeprozesse effektiver und patientengerecht zu gestalten. Die Fördermaßnahme soll so dazu beitragen, die Vorbereitung und Durchführung der onkologischen Nachsorge mit Fokus auf kardiovaskuläre Risiken zu verbessern. Folgeprobleme einer Krebserkrankung sollen frühzeitig erkannt werden, sodass Langzeitfolgen vorgebeugt werden kann.

Zweck der Zuwendung ist die Förderung innovativer Forschungs- und Entwicklungsarbeiten im Bereich interaktiver Technologien zur Verbesserung und Unterstützung von Nachsorgeprozessen im Bereich der Kardio-Onkologie. Dies umfasst zum einen die Unterstützung von Krebsüberlebenden im Hinblick auf die akute oder langfristige medizinische Nachsorge einer Krebserkrankung und der Folgen ihrer Behandlung. Zum anderen sollen Projekte gefördert werden, welche den Nachsorgeprozess aus Sicht des medizinischen Fachpersonals erleichtern und optimieren. Die geförderten Projekte sollen so einen Beitrag zur Etablierung strukturierter, digital gestützter Nachsorgeprogramme leisten.

Es sollen Projekte gefördert werden, die die Entwicklung von Demonstratoren interaktiver Technologien verfolgen und die für den Nachsorgeprozess relevante Zielgruppen (Patienten, Hausärzte, Fachärzte, Pflegefachkräfte) in die Entwicklung miteinbeziehen. Die interaktiven Technologien sollen dazu dienen, Informationen und/oder Daten aufzubereiten und zu vermitteln, am Nachsorgeprozess beteiligte Akteure zu vernetzen, Nachsorgeprozesse zu optimieren oder zu erleichtern oder Anreize für einen stringenten Nachsorgeprozess zu geben.

Gegenstand der Förderung sind Forschungsaufwendungen im Rahmen vorwettbewerblicher wissenschaftlicher Verbundvorhaben. Dabei steht die enge fachliche Zusammenarbeit von Forschenden aus Wirtschaft und Wissenschaft sowie Vertretenden der Zielgruppe zur Überprüfung der Umsetzbarkeit grundlegender Forschungsergebnisse in eine spätere wirtschaftliche Nutzung und Verwertung im Mittelpunkt.

Es sollen interdisziplinäre Projekte gefördert werden, die partizipative Ansätze verfolgen, um sicherzustellen, dass die tatsächlichen Bedürfnisse von Betroffenen berücksichtigt werden. Die Forschungsprojekte sollen auch geeignete Maßnahmen zur Evaluation der im Projekt gemachten Entwicklungen erarbeiten.

Die Ergebnisse des geförderten Vorhabens dürfen nur in der Bundesrepublik Deutschland oder dem EWR und der Schweiz genutzt werden.

Die Zuwendungen werden im Wege der Projektförderung als nicht rückzahlbarer Zuschuss gewährt. Für die Verbundprojekte ist eine Förderung mit einer Laufzeit von in der Regel 36 Monaten vorgesehen.

Bemessungsgrundlage für Zuwendungen an Hochschulen, Forschungs- und Wissenschaftseinrichtungen und vergleichbare Institutionen, die nicht in den Bereich der wirtschaftlichen Tätigkeiten fallen, sind die zuwendungsfähigen projektbezogenen Ausgaben (bei Helmholtz-Zentren und der Fraunhofer-Gesellschaft die zuwendungsfähigen projektbezogenen Kosten), die unter Berücksichtigung der beihilferechtlichen Vorgaben individuell bis zu 100 % gefördert werden können.

In der ersten Verfahrensstufe sind dem beauftragten Projektträger VDI/VDE Innovation + Technik GmbH bis spätestens 31. Januar 2025 um 12:00 Uhr zunächst Projektskizzen in elektronischer Form vorzulegen

Mit der Abwicklung der Fördermaßnahme hat das BMBF derzeit folgenden Projektträger beauftragt:

VDI/VDE Innovation + Technik GmbH, Projektträger „Interaktive Technologien für Gesundheit und Lebensqualität“, Steinplatz 1, 10623 Berlin  
naso@vdivde-it.de  
<https://www.interaktive-technologien.de/foerderung/bekanntmachungen/naso>  
Ansprechpersonen sind:

Dr. Markus Gerold, Dr. Katharina Dassel, Ronja Schwab

Weitere Informationen unter:

<https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2024/11/2024-11-22-bekanntmachung-nachsorge.html>

## **DFG Disruptive Memory Technologies, proposal deadline: 05.03.25, registration deadline: 19.02.15**

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In March 2021, the Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) established the Priority Programme “Disruptive Memory Technologies” (SPP 2377). The programme is designed to run for six years. The present call invites proposals for the second three-year funding period – follow-up proposals as well as new proposals.

The aim of this Priority Programme is therefore to explore the potentials of ongoing developments in the field of main memory technologies and architectures. Despite the disruptive nature of these technologies, systems software and applications need to be enabled to fully exploit them. In order to master disruptive memory technologies and their impact on the overall memory hierarchy, research efforts are required on all levels of the classic system software stack, for example:

- Computer architecture (technical computer science): innovative architectures, for example, sensor nodes with fully-persistent state; improving/adapting existing architectures, for example, issues of volatile and non-volatile memory co-existence; instruction set extensions and memory management units
- Operating systems: software abstractions for new types of memory, including disaggregated on-demand memory from shared pools; integration into the memory hierarchy; fine-grained isolation and sharing of persistent objects; synchronisation mechanisms and memory transactions; systems that never reboot; removal of “persistent” faults or bugs; models and strategies for thread and data placement in a world of changing memory technologies
- Algorithms / data structures: dealing with heterogeneity (high/low bandwidth, different read/write performance); lightweight transactions on data structures
- Databases: optimised usage of different memory types, for example, index structures in persistent memory or optimised query execution by making use of in-/near-memory computing
- Languages / compilers / software engineering: support for in-/near-memory computing; evolution of persistent state; extended type systems and other models for novel classes of memory; conversion of legacy software; potential bugs related to the new technology

Since the memory technologies in focus are all new, the initiators have planned a “bottom-up” approach for exploring the field. In the first funding period, projects were expected to conduct basic research with an explorative character and a close relation to hardware and systems software. Where possible, the second funding period builds upon the insights of the first and extends the research questions more towards higher abstraction levels and applications. This is equally true for both new and follow-up projects. Authors of new proposals are expected to be familiar with the results of the first funding period and must explicitly address how the planned research fits into the overall picture. Projects within the programme that have already cooperated during the first funding period are explicitly encouraged to continue as tandem projects in the second funding period.

Proposals must be written in English and submitted to the DFG by 5 March 2025. Please note that proposals can only be submitted via elan, the DFG’s electronic proposal processing system.

Applicants must be registered in elan prior to submitting a proposal to the DFG. If you have not yet registered, please note that you must do so by 19 February 2025 to submit a proposal under this call; registration requests received after this time cannot be considered. You will normally receive confirmation of your registration by the next working day. Note that you will be asked to select the appropriate Priority Programme call during both the registration and the proposal process.

For scientific enquiries, please contact the Priority Programme coordinator:

- Professor Dr.-Ing. Olaf Spinczyk, Universität Osnabrück, Institut für Informatik, Wachsbleiche 27, 49090 Osnabrück, phone +49 541 9692598, olaf.spinczyk@uos.de

Questions on the DFG proposal process can be directed to:

- Programme contact: Dr. Valentina Damerow, phone +49 228 885-2868, valentina.damerow@dfg.de
- Administrative contact: Constanze Grunwald, phone +49 228 885-2973, constanze.grunwald@dfg.de

Further information: <https://www.dfg.de/de/aktuelles/neuigkeiten-themen/info-wissenschaft/2024/ifw-24-112>

### **DFG Autonomous processes in particle technology – Research and testing of concepts for model-based control of particulate processes, proposal deadline: 01.04.25, registration deadline: 24.03.25**

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In March 2021, the Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) established the Priority Programme “Autonomous processes in particle technology – Research and testing of concepts for model-based control of particulate processes” (SPP 2364). The programme is designed to run for six years.

In detail, the thematic goals can be formulated as follows:

- investigation of the process dynamics of individual process steps and of the interconnection of unit operations to form a process chain with material and energy recycles;
- optimisation of different target functions with regard to the pursued property distribution and resource efficiency;
- ensuring the stability of the process chain according to the influence of uncertainties, perturbations and constraints.
- In addition, there are the methodological objectives:
  - coupling of material and data streams of the unit operation or within process chains of the process models, the measurement methods and the control technology to ensure an autonomous process;
  - extension of methods for in-situ measurement of particle or product properties by means of reconstruction of easily accessible measurement information.

To achieve these goals, models suitable for control, in-situ measurement techniques and powerful methods of process control are required. These are to be developed in close cooperation between scientists from the fields of particle technology, control / process system engineering and computer science / mathematics.

The focus is on multiphase, particle processes in which solids or also fluid particles are processed. The typical unit operations of particle technology serve as processes, e.g. processes of particle synthesis (synthesis in the gas or liquid phase, crystallisation, precipitation, etc.), methods of particle processing (comminution, agglomeration, separation, etc.) or processes for product formulation (extrusion, coating, drying, etc.). The processes themselves can be carried out in batch as well as in continuous operation.

It is desired that a project is carried out in close cooperation between the disciplines with the respective project focus for the description of the process chain (tandem projects).

Proposals must be written in English and submitted to the DFG by 1 April 2025. Please note that proposals can only be submitted via elan, the DFG’s electronic proposal processing system.

Applicants must be registered in elan prior to submitting a proposal to the DFG. If you have not yet registered, please note that you must do so by 24 March 2025 to submit a proposal under this call; registration requests received after this time cannot be considered.

For scientific enquiries, please contact the Priority Programme coordinator:

- Professor Dr.-Ing. Hermann Nirschl, Karlsruher Institut für Technologie (KIT), Institut für Mechanische Verfahrenstechnik und Mechanik, Arbeitsgruppe Verfahrenstechnische Maschinen, Straße am Forum 8, 76131 Karlsruhe, phone +49 721

608-42404, hermann.nirschl@kit.edu

Questions on the DFG proposal process can be directed to:

- Programme contact: Dr. Simon Jörres, phone +49 228 885-2971, [simon.joerres@dfg.de](mailto:simon.joerres@dfg.de)
- Administrative contact: Anja Kleefuß, phone +49 228 885-2293, [anja.kleefuss@dfg.de](mailto:anja.kleefuss@dfg.de)

Further information: <https://www.dfg.de/de/aktuelles/neuigkeiten-themen/info-wissenschaft/2024/ifw-24-108>

### **DFG Emergent Functions of Bacterial Multicellularity, proposal deadline: 31.03.25, registration deadline: 21.03.25**

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In April 2021, the Senate of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) established the Priority Programme “Emergent Functions of Bacterial Multicellularity” (SPP 2389). The programme is designed to run for six years. The present call invites proposals for the second three-year funding period.

Differentiated, transiently stable bacterial consortia are widely distributed and exhibit astounding multicellular traits that go way beyond what their unicellular state could explain. This includes:

1. the tissue-like biophysical properties of biofilms and colonies,
2. the ways in which bacterial cells are connected with each other to exchange, communicate, synchronise and coordinate their efforts, and
3. multicellular traits and behaviours that cannot occur in planktonic cells, such as programmed cell death, spatial signalling and spatial metabolism. Identifying and characterising these emergent multicellular functions are at the centre of this Priority Programme.

The SPP 2389 will focus on two central aspects:

- the physiological benefits and molecular mechanisms of the emergent functions as the driving forces of bacterial multicellularity
- the architecture, dynamics and biophysical properties of the multicellular forms as the structural framework from which a multicellular function can emerge

“Form” and “function” are tightly interwoven aspects of bacterial multicellularity, which show an intricate interdependence, as they are both a precondition for, as well as a consequence of each other. Unravelling these interdependencies and identifying general principles of bacterial multicellularity requires a novel approach, which consists of investigating bacterial filaments and microbial tissues by using a combination of highly resolving experimental methodologies (such as time-resolved 3D live cell imaging, imaging mass spectroscopy, multi-parameter flow cytometry) in concert with modern data analysis and conceptual theory and modelling. These innovative approaches in combination with expertise from microbiology, genetics, molecular biology, biophysics and mathematics will generate the required multilateral synergies and mutual enrichment that will put the members of this initiative in a position to dissect and study functions and forms of bacterial multicellularity with single-cell resolution within the 1D to 3D confinements of bacterial filaments, biofilms and tissues.

Based on the above, suitable projects are characterised by the combination of three aspects that will often necessitate collaborative efforts and include

1. investigating a biological trait that is truly and exclusively multicellular,
2. focusing either on the multicellular form, that is, molecular/mechanistic aspects of bacterial tissues and filaments, or
3. focusing on the emergent multicellular function, to understand the fitness gain and purpose in light of the extra energy cost that maintaining the differentiated multicellular state requires.

Single cell analyses using multidimensional approaches are desirable to allow the modelling of correlations and interactions by high dimensional regression/statistics, network analyses or individual-based modelling. Collaborative (tandem) proposals with two PIs are highly encouraged to tightly interlink a multicellular behaviour with technology development and/or modelling of the resulting high-dimensional data. To promote interdisciplinary collaborations and ensure conceptual coherence

of this programme, projects need to meet all of the following criteria:

- A focus on spatially structured bacterial communities, with a goal of understanding community dynamics, intercellular interactions and environmental impact.
- A focus on multicellular functions that are beneficial for the communal lifestyle. These functions need to be known at the beginning of the project.
- Projects need to aim at a molecular understanding of multicellular traits. The underlying hypotheses derive from mechanistic, physiological, ecological or evolutionary questions.
- The microorganisms need to be genetically tractable.

For this second funding period, preference will be given to projects aiming at resolving (near) macroscopic traits of bacterial multicellularity in time and space at (close to) single-cell level. Technology-/theory-driven projects qualify if the above applies (ideally in tandem projects with experimental collaborators). Projects that (i) are purely descriptive, (ii) emphasise the eukaryotic host (e.g. in the medical context), or (iii) are in the context of communal phenotypic heterogeneity, but lack an experimentally described emergent multicellular function do not qualify.

Proposals must be written in English and submitted to the DFG by 31 March 2025. Please note that proposals can only be submitted via elan, the DFG's electronic proposal processing system.

Applicants must be registered in elan prior to submitting a proposal to the DFG. If you have not yet registered, please note that you must do so by 21 March 2025 to submit a proposal under this call; registration requests received after this time cannot be considered.

For scientific enquiries please contact the Priority Programme coordinator:

- Professor Dr. Thorsten Mascher, Technische Universität Dresden, Chair of General Microbiology, 01062 Dresden, phone +49 351 46340420, [thorsten.mascher@tu-dresden.de](mailto:thorsten.mascher@tu-dresden.de)

Questions on the DFG proposal process can be directed to:

- Programme contact: Dr. Regina Nickel, phone +49 228 885-2032, [regina.nickel@dfg.de](mailto:regina.nickel@dfg.de)
- Administrative contact: Sabrina Florin, phone +49 228 885-2390, [sabrina.florin@dfg.de](mailto:sabrina.florin@dfg.de)

Further information: <https://www.dfg.de/de/aktuelles/neuigkeiten-themen/info-wissenschaft/2024/ifw-24-105>

### **Sonstiges Kontakt Forschungsförderberatung Otto-von-Guericke-Universität Magdeburg**

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Wenn Sie Fragen zu Fördermitteln oder spezifischen Ausschreibungen haben und Unterstützung bei der Antragstellung und Projektbetreuung haben, wenden Sie sich bitte an die Forschungsförderberatung der OVGU.

Informationen zu aktuellen Veranstaltungen, Fördermöglichkeiten und Kontaktdetails finden Sie online unter:

<https://www.ovgu.de/KontaktForschungsfoerderung.html>