

February 2018

Focus Area DynAge 7th Call for Applications

Seed Money for Interdisciplinary Projects on Disease in Human Aging

Acute illness and chronic disease are triggered by a multitude of exogenous and endogenous factors, by health-relevant behavior (e.g. diet, sedentary lifestyle), and the societal environment. Many diseases are age-related in the sense that exposure to risk-factors, which eventually drive the development of morbidity, changes or cumulates over the life-span. This constitutes a major public-health challenge that needs to be met with systematic knowledge on the dynamics of pathogenesis and disease progression in different phases of human life as well as by knowledge on how individuals and their social environments may prevent and/or cope with age-related diseases over the life-course. Furthermore, knowledge is needed to assess how shifts in demography correlate with the accumulation of diseases in specific populations, how research integrity is influenced by economic and political circumstances, and how the resulting challenges can be met by adapted health systems.

The Focus Area *DynAge* is a collaborative project. The 7th round of project funding is co-sponsored by Freie Universität Berlin (FUB), Charité – Universitätsmedizin Berlin (CUB), Deutsches Institut für Ernährungsforschung (Dife), and by the Robert Koch-Institut (RKI). *DynAge* aims to intensify interdisciplinary trans-institutional research on age-related disease processes, therapeutic interventions, and associated societal as well as ethical issues by joining expert knowledge from natural sciences, biomedicine, the humanities, and social sciences and by providing a unique interdisciplinary platform spanning the molecular antecedents of age-related disease to the consequences for individuals and society.

The Focus Area *DynAge* invites applications for seed money funding of trans-institutional interdisciplinary research groups/consortia. Groups should be composed of researchers from different institutions: FUB, CUB, Dife and RKI (among them at least one university institution). The seed money is intended to consolidate present network partnerships and attract new initiatives. At the same time, existing *DynAge* project groups can be supported in their ongoing efforts to generate sufficient preliminary work to successfully compete in future larger-scope funding applications. Shared funding from all participating institutions can be made available to trans-institutional interdisciplinary research groups / consortia.

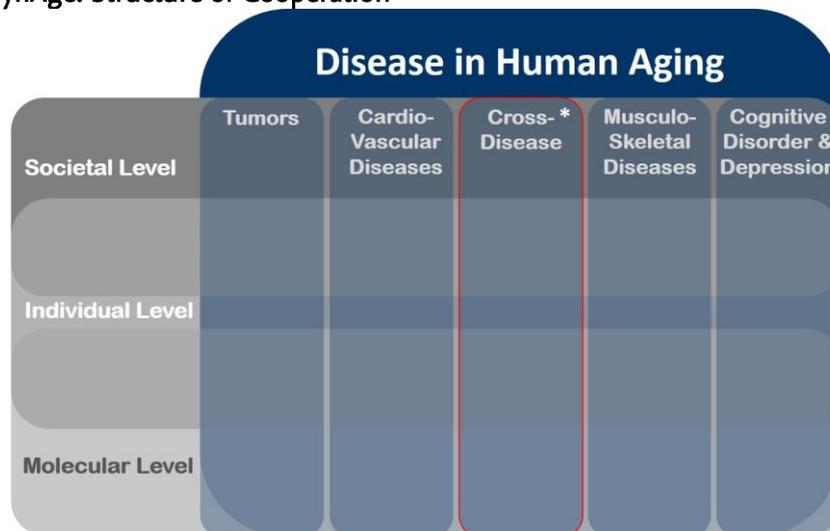
Core Criteria for Funding by DynAge

Successful applications entail the following:

- (1) Quality and rigor of research question and methods;
- (2) Fit with the Focus Area's research aims (including use of an age-comparative approach where applicable, see below);
- (3) Interdisciplinarity and ideally the integration of at least two horizontal levels of analysis within the Focus Area's matrix of cooperation (see below and Figure 1);
- (4) Fit with at least one of the four central disease groups or cross-disease themes (see below and Figure 1);

- (5) Clearly stated goals for the acquisition of further funding, potential to attract third-party funding (e.g., collaborative single projects, Forschergruppen, BMBF consortia, EU consortia);
- (6) Finally, applications of trans-institutional interdisciplinary project groups / consortia with early career researchers (e.g. postdocs) are explicitly invited.

Figure 1. DynAge: Structure of Cooperation



* e.g. metabolic processes, microbiome science, pain, infectious diseases

Research Aims: Age-Comparative Approach. DynAge promotes a *comparative approach that contrasts different phases of the life span* to explore disease progression, individual management of illness, and where applicable associated societal as well as ethical or public-health issues. Contrasted phases of life can entail all parts of the human life-span (conception to oldest age) that are relevant for disease development and progression.

DynAge Interdisciplinarity: Structures of Cooperation. Cooperation within DynAge-funded interdisciplinary project groups / consortia should be organized along a network matrix with intersecting vertical and horizontal elements (see Figure 1).

Vertical elements represent different groups of age-related diseases: **tumors, cardio-vascular disease, musculoskeletal diseases, and cognitive disorders/depression**. They are among the most relevant health challenges faced by aging societies. Newly added is the group of **cross diseases** to allow the inclusion of further aging-related health conditions (e.g., *metabolic processes, microbiome science, pain, infectious diseases*) and cross-sectional topics of public-health relevance (e.g., health-care services).

The *horizontal organization* of this Focus Area entails three perspectives on the investigation into disease in human aging:

- (1) **Molecular level.** Core disciplines within this level come from the natural sciences and include but are not restricted to biochemistry, molecular biology, chemistry, pharmaceutical sciences, or biocomputing. Major research themes to be addressed comprise among others: characterization of distinct protein-ligand interactions involved in disease development and treatment as well as identification of common themes in molecular interaction dynamics; understanding of the proteomic foundation of selected diseases; manipulation of protein interactions in the laboratory (e.g. by drugs or directed mutants).

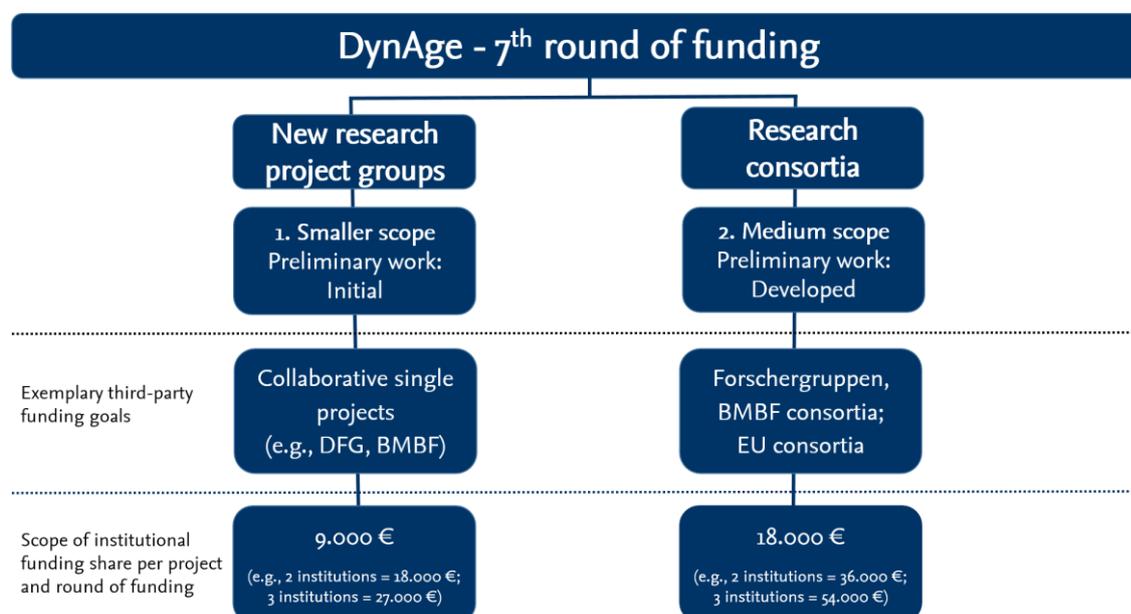
- (2) **Individual level.** Core disciplines are concerned with individual disease mechanisms, prevention, and treatment, they include but are not restricted to clinical medicine, psychology, psychiatry, and neuroscience. Major research themes to be addressed comprise among others: disease mechanisms, including also behavioral, cognitive, and emotional mechanisms; medical treatment; interventions to change disease-related behavior; disease management.
- (3) **Societal level.** Core disciplines come from the social sciences and humanities and include amongst others economics, epidemiology, public health, sociology, culture studies, ethnology, law, political sciences, philosophy, and theology. Major research themes comprise: Challenges of demographic change for societies in Germany and abroad; adjustments and new measures in health policy, social market economy, the organization of social security systems; impact of demographic shifts on the governance of societal health and well-being; coordination of reacting stakeholders; efficiency of “centralized governance approaches”; “Microfoundations of Change” i.e., upper- to lower-level path-dependencies determining the behavior of actors and contributing to the limits of governance; integrity, including aspects on lobbying and conflicts of interest.

One central criterion for successful application for DynAge funding is a clearly laid out structure of interdisciplinary cooperation ideally entailing integration of at least two of three horizontal levels within the Focus Area’s matrix (Figure 1) and teaming up experts from the listed core disciplines with biomedical experts.

Application and Funding

Who can submit an application? For the first time, the Focus Area DynAge supports different scopes of trans-institutional interdisciplinary project groups / consortia. In this call applications can be submitted by new research project groups with initial preliminary work (**1. Smaller scope**) who plan to attract funding for collaborative single projects (e.g., DFG, BMBF) following seed funding by DynAge or research consortia with developed preliminary work (**2. Medium scope**, see Figure 2) who plan to attract larger-scope funding following the DynAge seed funding period (e.g., Forschergruppen, BMBF consortia, EU consortia).

Figure 2. Structure of the 7th round of DynAge funding



Composition of groups is expected to reflect the Focus Area's aims and guidelines for interdisciplinary cooperation, including core disciplines ideally representing a minimum of 2 horizontal levels within the matrix of cooperation, and addressing a minimum of one of the Focus Area's central disease groups (Figure 1). Groups should include members of *at least* two of the following institutions: FUB, CUB, DIfE, and RKI. Also, PIs should include at least one member of a university institution (FUB or CUB). Proposals including *early-career researchers (post-doc level)* are especially welcome.

What will the application look like? Please use the provided application form and follow the outlined instructions. Applications are divided in 4 sections (A - Project Overview and Information on the Group of Collaborating Applicants; B - Outline of Interdisciplinary Project / Consortium; C - General References; D - Brief CVs of PIs) and should be submitted in English.

When is the application due? Submit your application electronically by **18 April 2018**.

Where should the application be sent? Please send your application electronically to the Focus Area DynAge (mail: dynage@fu-berlin.de) as a pdf-document. We ask applying groups to provide suggestions for external reviewers upon submission of their application.

What will the review process look like? Selection of successful applications will be guided by a 2-step peer-review process organized by the Focus Area's coordination group. (1) Members of the coordination group as well as external colleagues will be invited to rate the submitted proposals along the Focus Area's criteria for funding, using a scoring system. (2) Applicants will be invited to present their proposals to members of DynAge's selection committee (i.e., coordination group and invited external colleagues) on **24 May 2018**. Funding decisions will be based on outcomes of this 2-step process. Special care will be taken to avoid conflicts of interest, e.g. by excluding co-authors of current proposals from funding decisions.

When will funding decisions be announced? Applying interdisciplinary research groups/consortia will be informed of the outcome in **June 2018**.

What is the range of funding? What can funds be used for? Following the peer-review selection process trans-institutional interdisciplinary groups/consortia will be awarded seed money. The amount of funding for the different funding scopes can be seen in Figure 2). The seed money should facilitate the preparation of applications for further third-party funding of the envisioned interdisciplinary project / consortium and can be used for pilot work, reviews, proposal preparation, and others. Staff (e.g., part-time coordinating personnel) and/or consumables can be funded for a maximum of one year, starting 1 July 2018 and ending 30 June 2019. Applying PIs from the RKI are advised to confirm envisioned funding for 2018 with the RKI's Department of Research Coordination prior to submission of the application. As funds will be awarded to interdisciplinary project groups / consortia that are composed of members of at least two of the co-sponsoring institutions (FUB, CUB, DIfE, RKI), groups are requested to name one principal investigator (PI) for each co-sponsoring institution involved in the project. PIs will be responsible for the administration of funds and delivery of project reports on behalf of the group.

Funding period. The funding period will start **1 July 2018** and end **30 June 2019**.

Reporting. Focus Area-funded interdisciplinary groups will be required to report on the current state of their research project / consortium during the Focus Area Workshop planned for summer 2019 and to submit brief final project reports at the end of the funding period.

Further Information

For further information on the Focus Area DynAge, please visit our website at www.fu-berlin.de/dynage or contact Norma Bethke (DynAge Project Coordinator) via email (dynage@fu-berlin.de) or phone (+4930 838 51737).