

Call for proposals within the framework of the Berlin University Alliance

Objective 3: Advancing Research Quality and Value

Call for proposals:

Junior research group “Digital Methods and Research Quality” (Reference: Rf. 313)

Start of the call for proposals: 3 June 2021

Application deadline:	1 August 2021
Earliest start of funding	1 December 2021
Target audience / Eligibility	International researchers with a doctorate whose degree was awarded no more than 4 years ago. Deviations from this threshold are possible in exceptional cases (child-care or nursing periods, professional activity outside the research sector)
Funding Period	4 years, 2 months (50 month)
Funding for	Personnel and material costs
Funding amount	<ul style="list-style-type: none"> Personnel: includes the position of a junior research group leader, up to 1.5 FTE of research assistants and up to 0.5 FTE of administrative staff Material costs: up to 20.000 Euro p.a.
Contact	core@berlin-university-alliance.de

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1. Context of the call for proposals

The Berlin University Alliance is a consortium consisting of three major Berlin universities – Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin – and Charité –Universitätsmedizin Berlin, established to shape research and education in Berlin. The four partners joined forces to further develop Berlin as a research hub with international drawing power. Together, around 1,700 professors, 100,000 students, 12,000 doctoral students and 26,000 employees research, teach, learn and work in the Alliance. The Berlin University Alliance is funded by the Federal Ministry of Education and Research (BMBF) and the state of Berlin under the Excellence Strategy of the Federal Government and the Länder. The Alliance has given a special commitment to research quality and open science and - by building synergies and a balance between research and implementation - will contribute to achieving a sustainable improvement at the institutions of the Berlin University Alliance. Objective 3 “Advancing Research Quality and Value” combines the various research and specialist expertise of the partners in the Alliance and thus supports the Berlin University Alliance in achieving its goals. Based on this expertise, the Center for Open and Responsible Research (CORE) is compiling elements and guidelines for the development and building of value-based research governance. This will be complemented by research activities within the thematic area “Research and Reflection on Research Quality (R3Q)” in Objective 3, where research working groups will address issues of research quality and value and test the implementation of new measures, thus creating a platform for researchers across disciplinary boundaries. The Berlin Open Science Initiative OpenX will incentivize openness and transparency

in research and thus contribute to changes in research and research practice with regard to its realization, communication, accessibility, dissemination, and evaluation, including the development of a new error culture. (cf. proposal of the Berlin University Alliance).

2. Objective of the funding

The funding is aimed at outstanding early-career researchers in the natural sciences, life sciences, engineering, social sciences, and humanities. Within the framework of a four-year junior research group, they will be given the opportunity to develop and implement their own research project on a topic in the field of research quality or related topics such as “Open Science” or “Responsible Research and Innovation.”

Research quality has become an important issue not only due to misconduct in research, subject-specific crises in the ensuring of knowledge, and increasing critical to skeptical observation of science by large segments of society. The increasing digitization of science also raises pressing questions about the relationship of digital methods and infrastructures to research quality, while promising solutions to the crises within science. The topic of digitization and research quality is also changing the research process itself and touches on essential aspects of the scientific production process, including ensuring research quality through public pre-registration, transparent electronic lab books, through quality criteria for data quality such as the FAIR initiative, digital infrastructures and tools, and the reusability of research data within science and society. In addition, digital research practice also changes the requirements imposed on researchers, e.g. with regard to skills and resulting potential needs for training and further education, new technical challenges, or changed incentive structures for career-relevant data curation. However, the potential gains from incorporating digital methods and tools in the research process are also faced with barriers, for example, due to questions of archiving, reusability, etc.

A special focus in the funding will be on the structures and processes of the partner institutions of the Berlin University Alliance, which is a novel alliance in the German-speaking world that provides theoretical and empirical foundations for several institutions. On this basis, the junior research group to be funded should develop adequate and complementary measures to sustainably ensure and improve the quality of research within the institutions of the Berlin University Alliance and beyond.

Research will be conducted systematically on individual aspects of digitization and research quality within the framework of a junior research group, which will include up to 1.5 FTE of research assistants and up to 0.5 FTE of administrative staff in addition to the group leader. The leadership of a junior research group is intended to contribute to the further development of one's own research profile, to acquire leadership competencies, and to acquire the ability to be appointed in research or to qualify for prominent positions in research, research administration, or other fields of practice. At the same time the aim is to contribute to the focal points of Objective 3 by developing, implementing and reflecting on measures for the sustainable assurance of research quality and its monitoring within the alliance in coordination with CORE, in addition to the development of theoretical and empirical foundations. On the basis of empirically proven knowledge, it is the aim to develop recommendations and measures in coordination with the actors of the partner institutions, which can be implemented universally and comparatively in the institutions of the Berlin University Alliance.

3. Subject of the funding

Research quality is a research field within science studies that deals with various aspects of quality assurance of quality, its observation, and evaluation in the research process. Due to their increasing importance and application, this also includes digital methods, infrastructures and tools and the resulting requirements for ensuring research quality. The digitization of the research process does not only concern the purely technical dimension of the automated generation, collection and integration of data, their validation in digitally conducted experiments or surveys, but also questions of evaluation, reflexivity, and further development of the digital approaches and their interaction with the research process itself. To improve research quality, data governance issues are also coming into focus with respect to the legally

compliant application of digital methods and the reusability of data across a variety of research topics, their use and demand in different disciplines. Another task is to ensure the transparent integration of non-scientific actors and their needs in digitized research processes and thus to enhance science communication.

Against this background, the announced junior research group should meet the following criteria:

3.1. Content

The junior research group aims to contribute to creating a theoretical and empirical basis that allows describing the relationship between digitization and research quality in both directions, explaining how and why digital methods, tools and infrastructures can positively or negatively influence the quality of research processes and results. This includes, among other things, impact research of digital methods and infrastructures along the research process, through analysis and critical assessment of digital structures and processes, or through the identification of adequate evaluation criteria and research needs. The aim should be to ensure sustainable research quality on the basis of processes of (digitized) assurance of quality and standards for research on digitization in research.

- Against this background, the junior research group will contribute to the research and better understanding of practices, infrastructures, and processes by means of which digital methods and tools influence, for example, the generation, collection, validation, accessibility, reusability (including reproducibility) of research results and thus their research quality (e.g., initiatives for the automated verification of research results or the evaluation and maintenance of research data based on new criteria).
- In particular, it should integrate meta-studies and approaches from computer science to work on the research project and contribute exemplarily to a deeper understanding of the application of digital methods, infrastructures, and tools of a discipline or research field (e.g., possible solutions for subject-specific data in rare formats (languages/scripts/etc.) whose curation and sustainability cannot be guaranteed with common models/standards).
- The research topic of the junior research group should go beyond basic research and have or establish an application reference, i.e., the transfer and implementation of the findings into university or research practice should be considered from the beginning in the research design, also with regard to the potential of digital methods for initiating and supporting research cooperation and networking (especially of smaller subjects with internationally dispersed institutions).

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3.2. Qualification

- Throughout its entire duration, the research project serves to further qualify the group leader for appointment in research or to qualify for prominent positions in research, research administration, or other fields of practice, and to qualify the junior researcher for a doctorate.

3.3. Interdisciplinarity and transdisciplinarity

- Interdisciplinary and/or transdisciplinary approaches to exploring disciplinary differences and convergences in terms of research quality should be considered in the composition and functioning of the group.

3.4. Structural matters

- The junior research group is to be established at one of the partner institutions of the Berlin University Alliance whose profile can make a substantial contribution to the general topic of the group as well as to the specific research project. The receiving institution must provide evidence in a cover letter that the junior research group will be integrated into the institution's research program in terms of structure and content (see section 4).
- The group leader designs the project independently and assumes responsibility for the scientific and professional management of the group.

- In agreement with the supervising institution, the head of the research group should assume the supervision of the doctoral candidates assigned to it. In the cover letter (see section 4 below) of the receiving institution, it must be stated to what extent the group leader will be given the opportunity to guide doctoral candidates from the junior research group to doctoral studies. If it is not possible to transfer the right to award doctoral degrees to the group leader, it must be explained in detail how supervision will be ensured.
- Where possible, the gender ratio within the research group should be balanced.

4. Pre-requisites / Eligibility for application

- Researchers with a doctorate whose degree was awarded no more than 4 years ago are eligible. Deviations from this threshold are possible in exceptional cases (childcare or nursing periods, professional activity outside the research sector)
- Researchers who have already completed their habilitation cannot be considered; the same applies to researchers who are already supported by another funding organization as junior research group leaders (e.g., DFG Emmy Noether Program, ERC Grants, Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF)).

Applicants must include a Letter of Intent (LoI) from the institution where the group is to be located (depending on responsibility, department/faculty/institute/campus). This institution must be a member of the BUA. The following aspects are to be addressed in this LoI:

- Assurance of support for the junior research group leader in all project-related matters as well as the work opportunities required for the implementation of the project (premises, access to research literature and infrastructure, access to further education opportunities, etc.); statement of the extent to which the junior research group will be integrated into the research program of the institution in terms of structure and content.
- Demonstration of how junior research group members will be involved in teaching.
- Explanation of whether the junior research group leader is given the opportunity to guide doctoral candidates from the junior research group to the doctorate or presentation of how supervision is guaranteed as an alternative. Demonstration of how doctoral students will continue to be supervised should the junior research group leader leave the institution before the end of the funding period.

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5. Type, scope and amount of funding

The “Junior Research Groups” call for proposals is aimed at outstanding researchers with a doctorate who would like to establish a junior research group in the field of research quality and open science with affiliations to one of the partner institutions of the BUA. The junior research group leader is employed at the institution with which the junior research group leader is affiliated. Employment is for a period of 4 years and 2 months. The employment relationships of the junior research group leaders are contractually agreed as guest lectureships and include a teaching obligation.

Fundable costs

1. Lump sum for position of junior research group leader based on TV-L EG 14/15. Full-time position, incl. compensation for VBL-benefits. Compensation is based on the rules of the institution with which the junior research group is affiliated.
2. Staffing of the junior research group

Research assistant [1.5 FTE]

Employment of personnel shall be in accordance with the specifications of the receiving institution. Research assistants have regular teaching responsibilities.

Upon request and subject to available funds, up to 0.5 FTE administrative staff may be applied for. Material costs can be applied for as follows:

3. A lump sum of up to 20,000 euros per year is available to the junior research group for material costs, e.g., for travel and accommodation expenses for the academic staff, smaller equipment and software, publications, and other material costs (contract awards, funds for further training, etc.). The funds are managed in accordance with the budgetary requirements of the State of Berlin.

Personnel and material costs (2 and 3) are eligible for cover.

6. Application procedure

Applications must be submitted by 01.08.2021 exclusively in English as a pdf file by mail

indicating the reference (Rf. 313) to the following address:

core@berlin-university-alliance.de.

(With an electronic application, you acknowledge that your data are saved and processed.)

In view of the agenda, for which Objective 3 stands within the framework of the Berlin University Alliance, which aims at questioning, developing or further developing and implementing processes to ensure the quality of research and the opening of science, both internally and externally, and in doing so to deal with experimental approaches, the review of applications for the leadership of a junior research group is to be realized as an open peer review. By open we understand that 1) the names of the reviewers are known in each case and 2) the reviews themselves are disclosed.

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Review and selection are a multi-stage process, which is planned as follows:

- Receipt of application

Checking the formal criteria

- Completeness and correctness of the documents submitted
- Fulfilment of the formal requirements for funding (especially membership of the target group)

Formal criteria are checked by the Administrative Unit of Objective 3.

- Review of the applications

For those applications that meet the formal criteria, external experts, at least two for each application, will be asked to provide a written statement addressing the following aspects:

6.1. Assessment criteria

Scientific excellence of the research project

- Relation of the project to the objectives of the funding and fulfillment of the funding requirements;
- Innovativeness of the research program;
- Quality of the research design including the appropriateness of the selected research methods as well as the handling of research ethical aspects;
- Adequacy of data collection and access;
- If applicable: quality of the data management plan;
- Practical relevance of the question or high application relevance;

- Quality and informative value of the utilization plan, also with regard to the objectives of the funding measure, including the consideration of cooperative, socially acceptable utilization approaches;
- Realistic work, time and milestone planning;
- Realistic plan for the dissemination of the research results;
- Concept for the implementation of aspects of Open Science (e.g., Open Data, Open Methodology, Open Code, Open Access).

Composition/development of the project team

- Qualifications, expertise, and past performance record of the junior research group leader in the relevant topic or related topics;
- Consideration of interdisciplinary and/or transdisciplinary approaches;
- Adequacy of the integration into academic structures and the planned cooperation, especially with regard to the cooperation within the Berlin University Alliance (expertise of the receiving institution), taking into account the criteria of interdisciplinarity, practical involvement and/or internationality;
- Independence of the junior research group leader in supervising doctoral candidates;
- Appropriateness of supervision approach to group members;
- Support from the supervising institution.

Project organizational aspects

- Suitability of financial planning
- Necessity, suitability, and eligibility of the requested funds
- Description of how the planned junior research group will be affiliated with at least two other partner institutions of the Berlin University Alliance.

6.2. The selection process:

The written reviews are submitted to the selection committee, which deliberates on them and draws up an invitation list. A maximum of five candidates who the selection committee considers to be the most suitable will be invited to an interview. This interview consists of a scientific presentation by the candidates, a discussion of this presentation and an interview with the candidates. The first part of the interview, i.e., the scientific presentation as well as the discussion on it are public. The interview with the candidate is not open to the public.

As a result of these interviews, the selection committee draws up a shortlist of the three most suitable candidates, including a concrete proposal for the award of the junior research group leadership. This as well as the shortlist will be submitted to the Executive board (ExB) for a final decision. As a result, the applicants will be informed about the outcome of the review and selection. The reviews are public for interested parties.

➤ Reviewers and selection committee

The applications that meet the formal requirements will be evaluated by at least two reviewers each. The selection of the reviewers is based on their expertise. The selection of the reviewers is made by the Steering Committee (SC) of the O3 on the proposal of the Administrative Unit of the O3. In the event of a Conflict of Interest as defined in the Code of Conduct of the Berlin University Alliance, the member of the SC for whom bias has been established in accordance with the criteria set forth therein will be excluded from the selection of reviewers. If more than two SC members are excluded from participation in relation to applicants, the Executive Board is contacted upon to select the reviewers. The reviewers

are exclusively national and international experts who are not affiliated with one of the institutions of the Berlin University Alliance.

The review of the bias criteria is realized for all reviewers.

The selection committee consists of four external members who are not involved in the review process and the members of the SC of the O3. The external members are appointed by the ExB upon proposal of the SC.

6.3. Application structure

Applications for a junior research group shall be structured as follows:

1. General information
 - Name and address (including telephone, fax and e-mail) of the person submitting the application
 - Title of the project
 - Name of the receiving institution(s) and the receiving faculty / department(s)
 - Signature of the applicant
2. Description of the project (research content and further explanations) (maximum 10-12 pages)
 - 2.1. Abstract of the project (maximum 400 words, to be published in case of funding)
 - 2.2. Presentation of the central questions or the project objectives
 - 2.3. Contextualization of the project in the current international state of research
 - Including a statement with regard to the inter- and transdisciplinarity of the project
 - 2.4. Detailed work program including:
 - Work Packages and planned milestones
 - Explanations on the theoretical framework
 - Explanations on the methodological approach
 - Explanations on field access, if applicable, designation of the responsible ethics committee
 - Central risks of the project and planned measures for risk management
 - 2.5. Information on exploitation possibilities and plans
 - this includes possible uses of the results in the academic and non-academic public (exceeding those for academic publications; for publication strategy conf. 2.7.)
 - 2.6. When developing measures for implementation, the following aspects must be considered:
 - Presentation of practice-relevant research results and concept of measures/implementation
 - 2.7. Description of the planned research data management and publication strategy measures

Note: Publications and research data are to be made accessible free of charge. If the results of the research project are to be published as an article in a scientific journal, does not initially appear in a journal that is electronically accessible to the public free of charge, the article shall be made electronically accessible to the public free of charge (secondary publication), if necessary, after expiration of an appropriate period (embargo period). In the case of secondary publication, the embargo period shall not exceed twelve months.

 - Data obtained in the course of the project with possible relevance for use by third parties shall be made available to a suitable institution/research data center in a form suitable for dissemination on the basis of common standards after completion of the project.

The goal is to enable long-term data backup, secondary analysis or reuse. Common research data management requirements should be considered.

3. Description of the junior research group (maximum 4 pages)
 - 3.1. Planned composition of the junior research group (disciplinary and status group, e.g. Postdoctoral researchers and / or PhD candidates)
 - 3.2. Working and task areas of the potential members of the junior research group including – if relevant – explanations on:
 - Supervision concept and planned measures to link the qualification of the doctoral candidates with the work of the group
 - 3.3. If relevant: Envisaged or potential cooperation partners, in particular, possibilities of networking with other institutions of the Berlin University Alliance, if applicable including the respective Letters of Intent of the cooperation partners.

In total, the proposal should not exceed 15 pages (without financing plan and annex).

Please prepare the proposal in font size 11, Arial with a minimum line spacing of 1.15 x.

4. **Please add the following annexes to your project proposal** (please use the templates provided on the website of the Objective 3):

<https://www.berlin-university-alliance.de/en/commitments/research-quality/jrg-digital/index.html>

4.1. Financing plan

- Resource planning, i.e., overview of the foreseen personnel and material resources (subcontracts/procurement/travel) – details per category, year and total amount.
- Please use the template “budget” on the website of the Objective 3
- For the remuneration of the staff, please use the personnel rates of the German Research Foundation:
https://www.dfg.de/formulare/60_12/60_12_en.pdf

- 4.2. **CV** of the group leader (please use the template “CV” on the website of the Objective 3) including:

- Publication list highlighting the ten most relevant publications
- Research data generated and published
- Details of relevant research projects

- 4.3. **Detailed statement (LoI) of the receiving institution** e.g. from the institution where the group is to be located (depending on responsibility, department/faculty/institute/campus). This institution must be a member of the BUA. The following aspects are to be addressed in this LoI:

- Assurance of support for the junior research group leader in all project-related matters as well as the work opportunities required for the implementation of the project (premises, access to research literature and infrastructure, access to further education opportunities, etc.);
- Statement of the extent to which the junior research group will be integrated into the research program of the institution in terms of structure and content.
- Statement on the extent to which the members of the junior research group will be included in teaching activities
- Explanation of whether the junior research group leader is given the opportunity to supervise doctoral candidates from the junior research group to the doctorate or presentation of how supervision is guaranteed as an alternative.
- Demonstration of how doctoral students will continue to be supervised should the junior research group leader leave the institution before the end of the funding period.

- 4.4. If applicable: Letter(s) of support of the affiliated institution(s) of the Berlin University Alliance

- 4.5. **Draft of job offer** for the positions of doctoral candidates / postdoctoral researchers
- 4.6. Other supporting documents / references / letters of intent

The project proposals and any other documents submitted will not be returned.

Please **contact us with any questions at core@berlin-university-alliance.de** and also refer to the call's information sheet on the website:

<https://www.berlin-university-alliance.de/en/commitments/research-quality/jrg-digital/index.html>

Contact persons: Dr. Sybille Hinze (Head of CORE) Dr. Stefan Skupien (scientific coordinator open science), Nele Albrecht (scientific coordinator research quality)

For the purpose of safeguarding Gender Equality and Diversity, applications from female researchers as well as other members of underrepresented groups in academia (people with diversity attributes such as disabilities, migration backgrounds, first-generation researchers etc.) are particularly welcome.