

CORTEX

AN INTERNAL **DKTK** FELLOWSHIP

To further promote and train young researchers in the field of clinical data science, DKTK is launching its new internal fellowship program: **Cancer Outcomes and Reverse Translation – Educate & Accelerate (CORTEX)**, in close cooperation with the [DKTK Clinical Communication Platform \(CCP\)](#) and the [DKTK Clinical Data Science Group](#).

The CCP serves as a crucial information hub for translational cancer research within DKTK. It has set up federated infrastructures that offer researchers access to a continuously growing repository of cancer patient datasets, spanning data from over half a million patients across DKTK partner sites and CCP partner sites. To foster innovative real-world data-based clinical research, the DKTK Clinical Data Science Group brings together experts from diverse scientific and medical disciplines to develop and execute research projects utilizing oncological data provided by the CCP.

The CORTEX Fellowship offers two tracks: one for **Doctoral Researchers (PhD candidates)** from life sciences, (bio)informatics, and related fields, and the other for **Junior Clinician Scientists** (50% clinical leave) with a strong interest in data-driven clinical oncology. Both tracks aim to address research questions falling within the scope of the CORTEX Fellowship:

Reverse translation – findings from large-scale clinical data analyses (e.g. disease phenotype clustering) to generate input for translational research.

Outcome-impacting research – address unresolved clinical questions with guideline-relevance for the treatment and care of specific cancer entities/patient subgroups not adequately addressed by prospective clinical trials.

Data augmentation – derive new parameters from existing clinical data and/or exploit new data sources. Projects should enrich source data and/or biosample metadata to enable new research questions as well as identify biomarkers or other meaningful signatures.

Cohort preparation – identify valuable collectives of patients with rare cancers and their respective biosamples and take preparatory steps towards a larger research action, e.g. draft study protocols, centralize biosamples for analysis, re-identify and contact patients for long-term follow-up etc.

Aims of the CORTEX Fellowship

The primary aim of CORTEX is to train a new generation of young scientists by complementing their training program with state-of-the-art masterclass seminars that revolve around data science methodology and data analysis tools. Training will focus on the application of advanced statistical methods and machine learning techniques suitable for federated analyses and real-world cancer data.

Selected fellows will engage in close collaboration with local post-doctoral experts, thereby creating research tandems that provide tailored scientific and project-specific mentoring to the fellows, and smooth integration into the local projects. For their individual research projects, fellows will have access to extensive clinical data resources via the DKTK CCP, comprising OPS codes, hospitals admission and discharge data ("§21 data"), biosample data, laboratory values, and essential molecular markers. These rich resources will empower them to conduct their investigations and make valuable contributions to the field of oncology research. Moreover, PhD candidates will need to be enrolled in an appropriate graduate program (e.g. DKFZ International PhD Program or local graduate program), and all fellows will be able to participate in activities offered by the DKTK School of Oncology.

Eligibility and Application Process

The DKTK invites CORTEX Fellowship applications from **Doctoral Researchers (PhD candidates)** from life sciences, (bio)informatics, and related fields, as well as **Junior Clinician Scientists** in training with a strong interest in data-driven clinical oncology.

Doctoral Researchers will receive a CORTEX fellowship for the duration required to complete the project, with a **maximum funding period up to three years**. Doctoral researchers who are already enrolled must still be within the first half of their project at a DKTK partner site, and the project must align with the scope and topics of the CORTEX Fellowship.

Junior Clinician Scientists who are at an early stage of their career (within specialized medical training / Facharztweiterbildung) and who would like to embark on a data science project in the framework of the CORTEX fellowship are also encouraged to apply. Successful candidates will have the opportunity to receive **one year of 50% funding while on clinical leave** (protected time for research).

All candidates must be affiliated with a DKTK partner site. If the candidates are not affiliated with DKTK at the time of application, the spokesperson of the respective site and the principal investigator (PI) must guarantee the affiliation of the candidates by the start of funding (to be indicated in the letter of confirmation by spokesperson of DKTK partner site and letter of confirmation by principal investigator). Promising candidates should have excellent degrees (at least B grade, German: "gut", 2) in their final study exams, fluent English and intermediate German language skills. For additional details concerning university degree prerequisites and language skills requirements, please make use of the provided [link](#). Exceptions can be granted upon provision of two letters of recommendation from independent researchers endorsing the candidate's excellence, or proof of successful publications as first author in peer-reviewed journals.

As part of the application process, candidates are expected to submit the following documents until September 30th, 2023 as one single PDF file via the online application portal:

1. Curriculum Vitae (CV) of the applicant, providing a comprehensive documentation of the academic and professional background, incl. publication list.
2. Short motivation letter and detailed description of the proposed project addressing research questions within the scope of the CORTEX Fellowship (see above) and how CCP resources will be used. Should not exceed two A4 pages.
3. Inventory outlining essential data items, data sources, and if applicable biosamples required for the proposed project.
4. Letter of confirmation by spokesperson of DKTK partner site, affirming the candidate's affiliation and eligibility for the CORTEX Fellowship. The form, which also contains additional information for the DKTK local spokesperson, is attached in the email.
5. Letter of confirmation by principal investigator (PI), which includes an acknowledgement of the financial funding criteria. The form, which also contains additional information for the PI, is attached in the email.
6. Research tandem partner confirmation form, in which a local post-doctoral expert confirms her/his support for the project and declares her/his availability to collaborate as a research tandem partner. The form is attached in the email.
7. Copy of degree certificates (originals, transcripts and translations if applicable).

Selection Process

The selection procedure for the DKTK CORTEX Fellowships is composed of multiple steps.

Eligibility checks

After the end of the application deadline on September 30th, 2023, all applications will be subject to a formal check by the central DKTK Coordination Office, to ensure that all eligibility and application criteria are met.

Scientific selection

Application documents will be evaluated by a selection committee, composed of members of the DKTK Clinical Data Science Group in a competitive selection process. Top-scored candidates will be invited to deliver an online pitch talk in October, followed by a brief discussion with the selection committee.

Applicants will be informed about the outcome of the competitive selection process after final confirmation by the DKTK Steering Committee. Exact start dates for fellows will be mutually agreed upon acceptance of the offered fellowship contract.

In total, up to six candidates will be selected to receive a DKTK CORTEX fellowship. Additional funding by DKTK partner sites could eventually become available to support up to four additional fellows, who would then be eligible to take part in the training and networking activities.

CORTEX Fellowship Application

Application deadline is September 30th, 2023 (23:59 CET).

[Link to the application portal for Doctoral Researchers \(PhD candidates\)](#)

[Link to the application portal for Junior Clinician Scientists](#)



Kindly be reminded that this call is exclusively intended for internal applicants. If candidates currently lack DKTK affiliation (with plans to establish it by the commencement of the fellowship), we encourage Principal Investigators to provide them with the necessary forms and the information provided within this document.

We are looking forward to receiving your applications! If you have any further questions or need assistance, please feel free to contact us via email at dktk@dkfz-heidelberg.de