

The Biotechnology Center (BIOTEC) (<https://tu-dresden.de/cmcb/biotec>) and its partner institutions, the Center for Molecular Bioengineering (B CUBE) and the Center for Regenerative Therapies Dresden (CRTD), are equipped with state-of-the-art facilities for Molecular Bioscience research (<https://tu-dresden.de/cmcb/bcube/forschung-technologie/technologieplattform>). They are part of a rich and collaborative environment that includes the Faculty of Mathematics, the Carl Gustav Carus Faculty of Medicine, the Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), and the Leibniz Institute of Polymer Research Dresden (IPF). For TUD Dresden University of Technology diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Biotechnology Center (BIOTEC)**, an Institute of the **Center for Molecular and Cellular Bioengineering (CMCB)**, the **Research Group Biomedical Genomics** offers a full-time position as

Research Associate / Postdoc Computational Single Cell Omics (m/f/x)

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting on **August 1, 2025** or **as soon as possible**. The position is limited for 2 years. An extension to approximately 4 years is anticipated. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification.

Tasks: Cancer development leads to major changes in the genome as well as in cellular organization and alterations of gene regulatory programs. Such alterations now become visible in unprecedented detail with single cell technologies.

To strengthen our diverse team, we are looking for a postdoctoral fellow (m/f/x) to study tumor evolution with single cell multi-omics as part of a collaborative project following glioma development in a background of neurofibromatosis. We will investigate single-cell behaviors in response to the genetic defect in data from patient-derived induced pluripotent stem cells stimulated with a second hit on the NF1 gene. Using data on somatic genetic evolution and simultaneous single cell RNA- and ATAC-seq, we will study the contribution of genetic and non-genetic driving forces for the cells' evolution and glioma development. Using multi-omics data integration and machine learning, we will investigate cellular behaviors and gene-regulatory network changes. The project is a collaboration between the lab of Doreen Williams in Clinical Genetics at the TUD, David Salomon at Stanford University, and the Computational Biology lab of Anna Poetsch on „Biomedical Genomics“ at the Biotechnology Center of the TUD, where this position will be based.

The successful candidate will have the opportunity to receive training in cutting-edge methods in multi-omics data integration and the project will provide opportunities to learn, develop, and apply machine learning and deep learning methods on genomics data.

Requirements:

- excellent university and PhD degree with experience in molecular biology, computational biology, genetics, genomics, or equivalent scientific background with an excellent understanding of genome biology
- comprehensive programming experience in python and/or R
- demonstrable experience in multi-omics and/or single cell omics data analysis
- knowledge of machine learning principles and applications
- very good interpersonal and communication skills; in particular, the ability to effectively work in a diverse, collaborative and interdisciplinary research environment
- fluency in English - written and oral. (German is not required)

The BIOTEC/CMCB is a renowned interdisciplinary and international research institute of the TUD that boasts a collaborative spirit and cutting-edge technology platforms, including one of the national genome centres and cutting-edge High Performance Computing resources. The city of Dresden provides numerous chances for scientific exchange and collaboration.

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application stating the reference number **w25-100** with the usual documents, including a letter of motivation, your CV including a list of publications, transcripts of records, and contact details for 2-3 academic references, by **May 9, 2025** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal <https://securemail.tu-dresden.de> by sending it as a single pdf file to till.kirst@tu-dresden.de or to: **TU Dresden, BIOTEC, Research Group Biomedical Genomics, Dr. Anna Poetsch, Helmholtzstr. 10, 01069 Dresden, Germany**. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: <https://tu-dresden.de/karriere/datenschutzhinweis>.