

# **Postdoctoral researcher (m/f/d) in the area of Telomere Plasticity in iPSCs**

**The university of Bayreuth with internationally competitive, interdisciplinary within a interdisciplinary collaboration between the groups Nutritional Biochemistry and Applied Computer Science 8**

Application deadline: 26 May 2024

The University of Bayreuth is a research-oriented university with internationally competitive, interdisciplinary focus areas in research and teaching. Within an interdisciplinary collaboration between the groups of Henkel-Oberländer (Nutritional Biochemistry) and Müller (Applied Computer Science 8), we are currently seeking a

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(salary level TVL E13 100%), starting date to be agreed, as soon as possible. The position is initially available for a period of 3 years and can be extended for further 3 years.

Project description: Telomeres are repetitive structures found at the ends of chromosomes, which shorten at each cell division, because DNA polymerases cannot fully replicate linear chromosomes. Reduced telomere length can lead to cell senescence, resulting in age-related diseases, a process that has been described as a molecular clock of aging. In stem cells, telomerase slows down this process, and reduced telomerase activity and/or telomere instability can lead to premature aging syndromes such as Telomere Biology Disorders (TBD). The identification of telomerase activating compounds holds considerable promise in the restoration of telomere length in such syndromes and other age-related diseases.

In this project we are using human iPSCs (hiPSCs) and other human telomerase-positive cell lines to identify active telomere elongating molecules to better understand the pathways and genes affecting telomere stability. For that, we are interested in partial or total hiPSC differentiation to test the effect of different molecules in specialized cell types and to characterize the affected molecular pathways. There may be the possibility of cell reprogramming from patients to understand the mechanism of action of different genes and molecules on TBD and healthy controls.

To approach this study, we will analyze the telomere length with both standard methods (qPCR, southern blot, FISH, immunofluorescence), as well as the most recent techniques in long-read telomere sequencing (e.g. telomere sequencing with nanopore technology).

Experience required: PhD in Molecular Biology, Genetics, Biochemistry or related fields, molecular biology skills (qPCR, southern and western blot, immunofluorescence, cloning, siRNA); cell culture, knowledge of genomic databases (UCSC, Ensembl), drug screening. Ability to carry out duties and design experiments with minimal supervision.

Not required but nice to have: handling of stem cells, DNA and RNA-seq experience, python programming.

The University of Bayreuth values the diversity of its employees and is expressly committed to the goal of gender equality. Women are strongly encouraged to apply. Applicants with children are very welcome. The University of Bayreuth is a member of the Best Practice Network "Familie in der Hochschule e.V.", and has successfully participated in the HRK audit "Internationalization of the University". Persons with severe disabilities will be given preferential consideration if equally qualified.

## **Your application**

Please apply **online** with your CV ( <https://www.uni-bayreuth.de/job-vacancy-keyword-postdoc-telomere-plasticity-4ff6ca5215032800> ). Applications must be submitted **by 26.05.2024** stating the keyword "**Postdoc Telomere Plasticity**" via the University of Bayreuth's application platform.

The documents will be deleted after the position has been filled in accordance with data protection requirements.

If you have any questions, please contact Prof. Dr. Janin Henkel-Oberländer, ([Janin.Henkel-Oberlaender@uni-bayreuth.de](mailto:Janin.Henkel-Oberlaender@uni-bayreuth.de); Tel. 0921/55-1180) or Prof. Dr. Jörg Müller ([Joerg.Mueller@uni-bayreuth.de](mailto:Joerg.Mueller@uni-bayreuth.de); Tel. 0921/55-7790).