



LEIBNIZ-INSTITUT
FÜR UMWELT-
MEDIZINISCHE
FORSCHUNG

The IUF – Leibniz Research Institute for Environmental Medicine investigates the molecular mechanisms through which particles, radiation and environmental chemicals harm human health. The main working areas are environmentally induced aging of the pulmonary system and the skin as well as disturbances of the nervous and immune system. Through development of novel model systems, the IUF contributes to the improvement of risk assessment and the identification of novel strategies for the prevention / therapy of environmentally induced health damage. The working group “Modern risk assessment and sphere biology” at the IUF – Leibniz Research Institute for Environmental Medicine in Düsseldorf is offering a

PhD position (f/m/d).

The position is to be filled at the IUF as soon as possible.

There is a growing concern about the role of hazardous chemicals, including pesticides, in the rise of neurodevelopmental disorders worldwide. Exposure to pesticides during development has been linked to various behavioral and learning issues, autism spectrum disorders, and psychiatric conditions. The developing brain is particularly susceptible to these chemicals due to its plasticity and the critical neurodevelopmental processes occurring at this stage. To study the developmental neurotoxicity (DNT) of pesticides, an in vitro human neural network formation (hNNF) assay has been developed. This assay detects dysfunctions in key neurodevelopmental processes. The project aims to enhance the hNNF assay by including DNT-relevant glial cell types like oligodendrocytes and microglia for more accurate pesticide screening. Additionally, the project will investigate the developmental neurotoxic mechanisms of action (MoAs) of pesticides using transcriptomics to identify gene signatures and molecular pathways as biomarkers. The PhD position associated with this project will focus primarily on the transcriptomic aspect and the associated bioinformatic analysis.

Your tasks:

- Evaluation of extensive sequencing data sets (WGBS, RRBS, ATAC, RNA-seq)
- Interpretation of bioinformatic analyses in the context of aging research
- Preparation of results for publications

Your profile:

- Master’s degree in bioinformatics / computational biology or a related field, e.g., life sciences, informatics or mathematics
- Programming skills and ideally Linux command line experience
- High level of motivation, creativity, self-responsibility and self-organization
- You have a good knowledge of the English language both written and oral
- You have strong communication skills and are able to explain difficult bioinformatics contexts to non-specialists.

23.07.2024

Our offerings:

- Challenging and varied tasks with a high degree of personal responsibility
- Support from and cooperation with competent colleagues
- A friendly and inspiring working atmosphere in an international team of toxicologists, cell biologist, and bioinformaticians
- Extensive training and further education opportunities
- Flexible working hours and the option to work from home

The position is limited for the duration of 3 years. The weekly working time totals 25 hours and 54 minutes. Remuneration is given in accordance with the provisions of the collective agreement for the employees of the states (TV-L). Salary will be according to TV-L (E13).

Please address your application (incl. letter of motivation and CV including), as one single PDF file, to Bewerbung@IUF-Duesseldorf.de:

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Application documents submitted by post are not returned. Documents for applicants not considered are destroyed appropriately once the procedure is complete.