HELMHOLTZ
Centre for Environmental Research

PhD Researcher (m/f/d)

Topic: Targeting mixtures of concern in human biomonitoring with high-throughput in vitro bioassays

Place of work

Leipzig

Working time

65%

Contract limitations

limited contract / 3 years, with option for extension

Salary

Remuneration according to the TVöD public-sector up to pay grade 13 including attractive public-sector social security benefits.

Contact

Your contact for any questions you may have about the job:
Phone: (+49) 0341 6025 1244
Beate.escher@ufz.de

charta der vielfalt
Für Diversity in der Arbeitswelt
UNTERZEICHNET

TOTAL E-QUALITY

The UFZ

The Helmholtz Centre for Environmental Research (UFZ) with its 1,100 employees has gained an excellent reputation as an international competence centre for environmental sciences. We are part of the largest scientific organisation in Germany, the Helmholtz association. Our mission: Our research seeks to find a balance between social development and the long-term protection of our natural resources.

The job

You are a doctoral student in the interdisciplinary, international Horizon Europe project (HORIZON-HLTH-2023-ENVHLTH-02-03) entitled ENDOMIX -"Understanding how endocrine disruptors and chemical mixtures of concern target the immune system to trigger or perpetuate disease". (Coordinator Prof. Ana Zenclussen, UFZ, doctoral student supervisor Prof. Beate Escher, UFZ)

In Endomix we will investigate the impact of endocrine-disrupting chemicals (EDCs) on human health. The project includes experiments with multiple innovative model systems such as primary cell cultures, 3D cultures, organoids and in vivo models as well as analysis of data obtained from various international cohort studies. The impact of relevant environmental chemicals on the immune system and how this impacts in health end points and pathologies will be investigated. Triangulation of in vitro, in vivo and cohort data will be the evidence base for policy briefs to inform the EU citizens about EDCs, their health effects and actions how their negative impact can be reduced. This doctoral student will focus on high-throughput bioassays and mixture effect assessment.

Your tasks

- You work on a work package in ENDOMIX that has the goal to identify chemical mixtures of concern for endocrine disruption and immunotoxicity-related adverse outcomes
- You collaborate with projects partners that identify candidate environmental pollutants potentially contributing to mixture effects in biomonitoring studies using targeted and non-targeted chemical analysis
- You measure specific effects of identified environmental pollutants and their mixtures with high-throughput cellular bioassays related to endocrine disruption and immunotoxicity
- You identify (more) relevant endpoints and improve/extend the high-throughput test battery accordingly
- You test the "something from nothing" hypothesis, that is, if chemicals present below their threshold of effect, they can still contribute to mixture effects and this effect is predictable
- You extract blood or serum samples from human cohort studies and test their mixture effects with high-throughput cellular bioassays and relate the effects to the effects of the known mixtures
- You present results at international conferences and prepare publications in peer-reviewed scientific journals

We offer

- Excellent technical facilities which are without parallel
- The freedom you need to bridge the difficult gap between basic research and close to being ready for application
- Work in inter-disciplinary, multinational teams
- Excellent links with national and international research networks
- Excellent support and optimal subject-specific and general training with our HIGRADE graduate school

Your profile

- A Master in environmental sciences or toxicology, biology, chemistry, bioanalysis,

(eco)toxicology, or related areas
- Research experience with *in vitro* bioassays, toxicology or ecotoxicology
- Skills in modelling with a focus on mixture models desirable
- High degree of organisation and ability to work independently
- Excellent interpersonal and oral/written communication skills (English required, German desirable)
- Motivation to work in an interdisciplinary team within a European Union project.

More information about jobs at the UFZ:
www.ufz.de/career