



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 of “Alternative method development for environmental toxicity testing” lead by Prof. Ellen Fritsche is looking for

**A student (f/m/d) for a PhD Thesis with the title:**

**Establishment of human induced pluripotent stem cell (hiPSC)-based assays for developmental immunotoxicity testing in vitro.**

**The project:** The mammalian immune system is a highly complex, interactive network of cells that facilitates innate and adaptive immune responses. The neonatal immune system may be more susceptible to chemical perturbations than that of the adult and hence the effects of immunotoxicants during development may not be fully detected in toxicity studies performed on adult animals. Furthermore, the majority of regulatory agencies worldwide do not routinely require developmental immunotoxicity (DIT) testing for chemicals and pharmaceuticals. DIT studies are resource-intensive as they take almost one year, produce high costs and use a large number of animals. Moreover, developmental differences in immune system development are evident among species compared to humans, making extrapolation from rodents to humans difficult. Therefore, the aim of this thesis is to take a first step on the road to the development of a human cell based in vitro DIT battery using hiPSC-based development of the different immune cells covering the following aspects of the developing immune system: (i) primitive hematopoiesis and (ii) definite hematopoiesis towards the T-cell lineage. The newly established assays will then be used to test compounds for their DIT potential.

**Your profile:** Our working group is looking for a motivated employee with a high level of commitment, fun at work, motivation, communication skills and team spirit. The applicant should have a completed Master’s degree in life sciences, ideally in the field of immunology. Hands on experience with stem cells is a plus, as well as the safe handling of standard immunological methods such as FACS and immunocytochemistry. Good knowledge of English and good presentation skills are advantageous.

**We offer:** We are an interdisciplinary, international team with a pleasant working atmosphere. We offer thorough training in a highly topical, challenging area of research. The project takes place in a team with other scientists, in part from industry, with whom there will be an intensive exchange of content on project-relevant results.

The position is limited for 3 years with the option of a prolongation. The employment relationship is governed by the provisions of the Collective Agreement for Employees of the Federal States (TV-L). The weekly working time is 25 hours and 54 minutes. The project is part of Leibniz Alternatives (<https://en.leibniz-alternatives.de>).

02.05.2022

**Start:** As early as possible.

Please address your application (letter of motivation, CV, references, qualification certificates), preferably electronically to [bewerbung@iuf-duesseldorf.de](mailto:bewerbung@iuf-duesseldorf.de):

Prof. Ellen Fritsche  
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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.

