

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.

As part of a joint DFG-funded project, the Genome Engineering and Model Development lab (GEMD) headed by Dr. Andrea Rossi and the research group AHR signaling & Environmentally-induced Skin Damage lead by PD Dr. Thomas Haarmann-Stemmann are offering a position for a

Cell Biologist (f/m/d) (Post-doc position)

The project aims to understand the underlying mechanisms that control genetic compensation and modifier gene expression before and after exposure to environmental factors, including particulate matter, chemicals and non-ionizing radiation. The candidate will work on improving various aspects of existing techniques as well as developing novel models for the investigation of genetic compensation:

- 1) Generation and characterization of human pluripotent stem cell (hPSC) knockout and knock-in mutants using genome engineering techniques (especially prime editing);
- 2) Development and validation of 3D culture systems including organoids from human pluripotent stem cells (hPSCs);
- 3) Exposure of cells and organoids to pollutants;
- 4) qPCR, short- and long- reads sequencing to analyze mRNA degradation, gene expression and modifier gene expression.

Qualifications

We seek a highly motivated candidate (f/m/d) with a solid background in genetics and molecular biology. Profound expertise cell culture techniques and establishment and/or handling of organoid or ex-vivo models is critical. The candidate is required to have strong skills in English and proven abilities to publish in internationally renowned journals with at least one first author publication. Motivation to work independently and be responsible for the daily management of his/her research project in coordination with other members of the group is expected. The candidate will also be actively involved in the training and co-supervision of other group members and students.

RESPONSIBILITIES

- The individual should apply their significant expertise in cell biology, cell culture and organoids, molecular biology based techniques, along with their understanding such as plasmid cloning, gene editing, AAV vector production, electroporation, qPCR, RT-PCR, nucleic acid extraction and cloning, gel electrophoresis, macromolecule blotting and probing and mouse handling is highly desirable.
- Participate in the development and improvement of assays. Independently analyze data and provide conclusions. Critically evaluate own and others results and offer insights based on process and product understanding to help solve problems.

- Contribute to patents, regulatory documents or manuscripts as required.
- Read scientific and technical literature in order to bring new and improved procedures to the laboratory, and to broaden understanding of disciplines outside area of training. Utilizes all appropriate experimental design methods needed for work in area of specialization. Conduct literature searches and apply knowledge to the approaches taken.
- Participate in scientific discussion with colleagues through informal and formal scientific seminars and meetings.

EDUCATION AND EXPERIENCE

- Ph.D. in Molecular Biology, Biology, Physiology, Biochemistry, or a related discipline.
- Experience with cell culture, iPSC cells, ex-vivo models, organoids is mandatory.
- In depth understanding of molecular mechanisms such as mRNA degradation and transcription.
- Demonstrated competency in immunohistochemistry, western blotting and DNA cloning.
- Experience with sequence analysis using bioinformatics and genomics.
- Strong verbal and written communication skills are required (English).

DESIRED KEY COMPETENCIES

- Self-motivated, highly organized, meticulous hands-on habits, keen to accuracy, and attention to detail.
- Positive can-do attitude, responsible and responsive, and maintain a high degree of ethical standard and trustworthiness.
- Strong quantitative and analytical skills, able to reach rational conclusions through complex processing of information.
- Energized by accomplishments and excellence in the workplace. Competent of high performance in independent work and coordinated efforts in implementing group projects.
- Maintain timely documentation of laboratory work and keep well organized records.
- Evaluate results, analyze and interpret data to prepare projects updates, meeting presentations and research reports for documentation and publication.

We offer:

Based at the heart of North Rhine-Westphalia in Dusseldorf, within close vicinity to the Netherlands and Belgium, our institute hosts a vibrant community of international researchers with access to state-of-the-art technology (Illumina sequencers, Oxford Nanopore, 10x Genomics). The position is limited for 3 years. The weekly working time totals 39 hours and 50 minutes. Remuneration is given in accordance with the provisions of the collective agreement for the employees of the states (TV-L).

Please address your application (incl. letter of motivation, CV, references, qualification certificates), preferably electronically, 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.

