

The IUF – Leibniz Research Institute for Environmental Medicine investigates the molecular mechanisms by which environmental factors — including particles, radiation, and chemical exposures — affect human health. The institute’s research focuses on environmentally induced aging and disease processes in the pulmonary system and skin, as well as environmentally driven dysfunctions of the nervous and immune systems. By developing innovative, human-relevant experimental model systems, the IUF contributes to improved environmental risk assessment and to the identification of novel strategies for the prevention and treatment of environmentally induced health damage.

The Junior Research Group “Biostatistical Methods for Environmental Medicine” led by JProf. Dr. Christian Staerk at the IUF – Leibniz Research Institute for Environmental Medicine in Düsseldorf is offering a

Doctoral Researcher Position (f/m/d) in Biostatistics and Statistical Learning

The position is to be filled at the IUF as soon as possible. Applications will be reviewed on a rolling basis until the position is filled.

The position is part of the DFG-funded research project **Adaptive Sampling for Variable Selection and Prediction on Large-Scale Genome–Exposome Data**. The project develops scalable statistical learning methods for large biomedical datasets from cohorts such as the UK Biobank and NAKO, integrating genetic and environmental variables to understand and predict health phenotypes. The focus is on adaptive sampling, high-dimensional variable selection, Bayesian uncertainty quantification and interpretable machine learning. The doctoral researcher will develop, implement and apply new statistical methodology.

YOUR RESPONSIBILITIES

- Develop novel statistical learning methods for large-scale, high-dimensional biomedical data
- Translate methodological ideas into efficient and reliable implementations in R and/or Python
- Evaluate the developed methods in simulation studies and on large-scale cohort data
- Publish research in international peer-reviewed journals and complete a doctoral thesis
- Present research results at national and international scientific conferences

YOUR QUALIFICATIONS

- A Master’s degree in Statistics, Mathematics, Data Science, Computer Science, Bioinformatics, or a related quantitative field
- A very strong methodological foundation in statistics, statistical learning, or related areas
- Strong programming and computational skills, preferably in R and/or Python
- Strong interest in developing statistical methodology for challenging biomedical applications

DESIRED KEY COMPETENCIES

- Intellectual curiosity, scientific creativity and enthusiasm for methodological research
- Strong analytical and problem-solving skills
- Independent, self-driven and solution-oriented working style
- Openness to new methodological and technological developments
- Ability to collaborate effectively in an interdisciplinary research environment
- Strong written and oral communication skills in English

WE OFFER

- A rewarding position in a leading international research institute with scientific and societal impact in environmental medicine
- Opportunity to pursue a doctoral degree under the supervision of JProf. Dr. Christian Staerk, with close academic ties to the Department of Statistics at TU Dortmund University
- A friendly, open and stimulating working environment
- Opportunities for scientific development through international conferences, research visits and collaboration with external research partners
- Flexible working hours and the possibility of mobile work (availability for regular on-site collaboration and research activities is required)
- 30 days of vacation according to the collective agreement

The position is funded for 3 years and is full-time (100%). 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). Salary will be according to TV-L E13.

We promote equal opportunities and diversity. Women are particularly invited to apply and will be given preferential consideration in accordance with the LGG NRW. Applications from persons with severe disabilities and those of equivalent status are also expressly encouraged.

Please address your application, including a letter of motivation, CV, Bachelor's and Master's degree certificates and transcripts, preferably electronically, with the reference "Doctoral Position Biostatistics and Statistical Learning" in the subject line 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.

