

(Post)Doctoral Research Fellow Position (f/m/d)

“Environmental Hits on Kids”

Our and your mission

We aim to understand mechanisms underlying the early development of environmentally triggered complex diseases in children (including, but not limited to childhood obesity and its metabolic and cardiovascular sequelae). We are studying at the molecular and epidemiological level the relationship between lifestyle, (epi)genetic, metabolic and environmental factors with risk and outcome of these complex diseases. We have large, well-characterized cohorts up and running with a longitudinal setting: LIFE Child (a populational childhood cohort across the age from infancy to young adulthood, n~5000) + Leipzig Obesity Childhood Cohort (n~3000) complemented by the Leipzig Adipose Tissue Childhood cohort (n~500), with deep phenotyping allowing for combining clinical, epidemiological, life style and functional omics data.

Ultimately, these results shall be used for diagnosis and stratification of patients and for identifying modifiable factors as targets for prevention and intervention.

Available postdoctoral projects include

- 1) Modelling risk for complex disease predisposition and outcomes in childhood
 - Longitudinal analyses in complex cohort studies
 - Developing risk scores and prediction modelling
 - Time series analyses
 - Including genetic predisposition
 - Consideration of developmental patterns

- 2) Identification of molecular targets for complex disease from (multi)omics approaches (genetic predisposition to obesity and related cardiometabolic disorders in children using integrative omics approaches combining functional and computational genomics data)
 - Gene environment interactions
 - Multiomics: genome, transcriptome, methylome (blood and adipose tissue)
 - Mendelian Randomization
 - Time series analyses
 - Consideration of developmental patterns

You will use environmental, biological, psychosocial and physical health data including longitudinal data based on questionnaires and visits. Your role will involve the analysis and integration of these data as well as building the appropriate models for integrating and scoring targets-disease associations. The position will also offer the opportunity and the requirement to write and publish several manuscripts in international peer-reviewed journals. The successful candidate will work closely with wet-lab scientists and clinicians to reveal pertinent risk profiles and/or meta-omics signatures that can be subsequently used to identify children at risk and match the right treatment to the right patient.

Your profile

- Enthusiasm and a high level of motivation for scientific work
- Depending on project: degree in bioinformatics/systems biology/computer science/mathematics OR epidemiology OR any life science degree (MD, PhD or experienced PhD student) with interest/experience in the fields as outlined above
- Sound knowledge of statistics in the context of biological systems (love numbers, stats and models) and basics of epidemiological statistics
- Flexibility, innovative thinking and preparedness to enter new avenues
- Ideas, questions, creativity and ability to drive and pursue research projects
- A good understanding of the biomedical background is highly recommended.

Environment

You will be employed at the University Children's Hospital (group Prof. Antje Körner) and integrated in a multidisciplinary research team encompassing clinical, medical, bioinformatics, epidemiology and wet lab scientists.

There is an exciting, multi-faceted scientific environment with close collaboration with LIFE Child, the Collaborative Research Consortium "Obesity Mechanisms", the HI-MAG Helmholtz-Institute of Metabolism-, Adipositas- und Gefäßforschung, the Institute of Medical Informatics, Statistics and Epidemiology and Institutes of Bioinformatics (IMISE), and two Max Planck Institutes.

Leipzig is one of the most vibrant German cities, the 2nd oldest University in Germany and young at heart with a rich cultural, music and night life, sociocultural diversity and a very green city with several lakes in cycling distance.

Salary German TVL 13

Start date August/September 2020

Limitation The position is (initially) limited until 31.12.2022, but under certain circumstances an extension can be arranged. Within the local research environment, there will be ample opportunities to apply for advanced academic profiles.

Applications

Complete applications including a motivation letter, a CV containing a complete list of publications, a statement of research experiences and expertises, should be submitted by July 20, 2020 via email (in one pdf file) to Pia.Skerka@medizin.uni-leipzig.de.

We promote equality of opportunity. To increase the share of women we very much welcome the respective applications. Qualified applicants with physical disabilities will be given preference. For inquiries please contact Antje.Koerner@medizin.uni-leipzig.de.

Examples of our work include

Geserick M, et al. Acceleration of BMI in early childhood and risk of sustained obesity. **N Engl J Med** 379:1303-12 (2018)

Poulain T, et al. The LIFE Child study: a population-based perinatal and pediatric cohort in Germany. **Eur J Epidemiol** 32:145-58 (2017)

Landgraf K, et al. Evidence of early alterations in adipose tissue biology and function and its association with obesity-related inflammation and insulin resistance in children. **Diabetes** 64:1249-61 (2015)

Web pages: www.koerner-lab-leipzig.de
https://life.uni-leipzig.de/en/children_adolescents_and_pregnant_women/life_child.html