

The Luxembourg Institute of Health is a public research organisation at the forefront of biomedical sciences. With its strong expertise in population health, oncology, infection and immunity as well as storage and handling of biological samples, its research activities impact on people's health. At the Luxembourg Institute of Health, devoted scientists investigate disease mechanisms to develop new diagnostics, innovative therapies and effective tools to implement personalised medicine. **The institution is the first supplier of public health information in Luxembourg, a dynamic multicultural country in the heart of Europe with a strong Research and Development culture supported by important financial and organisational resources.**

## PhD student position in Human Biomonitoring (m/f)

3 year fixed-term contract, full time, start date: immediate

### Biomonitoring of children exposure to pollutants based on hair analysis

Growing evidence support that human exposure to pollutants is associated with several chronic diseases such as cancer, metabolic diseases, infertility or neurological disorders. Recent data suggest that childhood would represent a particularly vulnerable period during which exposure to pollutants possibly acting as endocrine disruptors, could lead to short-term affections as well as to diseases in the adult.

The study of exposure-associated diseases requires accurate assessment of the exposure that can be conducted through different approaches. Biomonitoring, consisting in the determination of pollutants and their byproducts in biological samples directly collected from the individuals, represents one of the most relevant approaches, integrating all the different sources and routes of exposure.

In parallel to urine and blood, which have been classically used for the biomonitoring of exposure, increasing interest has been observed for hair analysis. In this context, our team published several studies demonstrating the possibility to detected pollutants from different chemical classes in hair. More recently, we also demonstrated in animal models that concentration of chemicals in hair was significantly associated with the level of exposure, which further strengthens the relevance of hair for assessing exposure. Based on hair analysis, the present PhD project aims at assessing exposure to various pollutants including pesticides and other endocrine disruptors in several children populations from different geographical areas.

The PhD work will consist in the collection of samples, the analysis using the most efficient analytical techniques currently available, the interpretation of the data and their statistical analysis.

Results will be used to highlight differences in the exposure between different areas but also between children within each area. Results will help to document public databases focused on biomonitoring where such information is still needed.

### Key Skills, Experience and Qualifications

- Theoretical background in analytical toxicology / Epidemiology / Environmental health Identification of post-translational modifications
- Preliminary experience in analytical chemistry applied to the analysis of biological samples would be highly recommended
- Highly motivated person with good organizational skills
- Good communication would be necessary to deal with the different partners involved in this project, at national and international level, as well as for restitution of the results to partners
- **Fluency in English is mandatory. Additional languages would be a plus.**
- **Excellent writing skills is mandatory. Previous publication would be an asset.**

More information about the unit can be found here : <https://www.lih.lu/page/departments/hbru-human-biomonitoring-research-unit-800>

Researchers are supported by easy access to scientific expertise, well-equipped facilities, an active seminar program as well as the possibility for close collaborations with the university and other research institutes.

Located in Luxembourg, LIH offers the opportunity to work in a dynamic, international and multilingual environment that values personal respect and professional achievement based on the highest intellectual and ethical standards. The remuneration for this position shall be based on qualification and experience.

**Applications including a cover letter and a full curriculum vitae should be sent before 31st August 2017 through our website [www.lih.lu/jobs](http://www.lih.lu/jobs). Ref.: VD/PHDS0817/BA/HBRU**

The Luxembourg Institute of Health is a public research organisation at the forefront of biomedical sciences. With its strong expertise in population health, oncology, infection and immunity as well as storage and handling of biological samples, its research activities impact on people's health. At the Luxembourg Institute of Health, devoted scientists investigate disease mechanisms to develop new diagnostics, innovative therapies and effective tools to implement personalised medicine. **The institution is the first supplier of public health information in Luxembourg, a dynamic multicultural country in the heart of Europe with a strong Research and Development culture supported by important financial and organisational resources.**

Located in Luxembourg, LIH offers the opportunity to work in a dynamic, international and multilingual environment that values personal respect and professional achievement based on the highest intellectual standards. **Applications including the cover letter and full curriculum vitae should be sent until 31<sup>st</sup> August 2017 through our website [www.lih.lu/jobs](http://www.lih.lu/jobs). Ref.: VD/PHDS0817/BA/HBRU**