



PhD Position in Human Exposure to Organic Chemicals

The role

The presence of chemicals in our everyday environment plays a prominent role in the development of complex diseases. However, the chemical exposome is far from being completely understood. This PhD will be focus on developing scientific understanding about our exposure to chemicals and contribute to obtain a holistic understanding of both the presence of new chemicals and their potential effects on human health. The main tasks conducted during the PhD include:

- **Human biomonitoring:** Development and application of HRMS-based non-target strategies to identify organic chemicals in human matrices (e.g. blood, placenta).
- Study of the chemical exposome in different cohorts (e.g. <https://www.projectebisc.org/en/home>). Evaluation of the potential **link between the presence of the identified chemicals with adverse health outcomes** (e.g. cancer).
- Finding efficient **proxies to predict the risk of chemical exposure** in humans

In addition, the PhD student will further work alongside our collaborators at the Swedish University of Agricultural Sciences (SLU), in Uppsala. **She/he will perform scientific stays in Sweden.**

What do we look for?

- **Qualifications and professional experience**

The candidate must hold a Master's degree from or equivalent to a Master degree awarded in the European Higher Education Area. **Master's degree must be in Analytical Chemistry, Environmental Engineering, Environmental Sciences, Environmental Chemistry, Bioinformatics, or similar.** Other degrees may be seen favourable if justified by motivation of the student.

- **Competences**

We are looking for a highly motivated person with interests in analytical chemistry to integrate human exposure assessment and sewage epidemiology. The project is cross disciplinary and would benefit from a creative and open mind.

The successful candidate is expected to hold an MSc degree, has experience in analysis of organic chemicals using mass spectrometry, data analyses and/or modelling, demonstrated skills in scientific communication (including paper writing), and a willingness to learn and expand skills. Other desired skills include computer programming (e.g. R and/or Python) and experience with machine learning or large datasets.

Fluency in English is required.

Working conditions

- **Contract duration: 3 + 1 years**
- Salary will commensurate with qualifications and experience
- Target start date: between November / December 2021 (it can be flexible)

The group

The research group led by Dr. Pablo Gago Ferrero is part of the IDAEA. He uses the last advances in analytical chemistry to obtain a more comprehensive understanding of the universe of chemicals that accumulate (or pseudo-accumulate) in humans and their link with the environment. Also, we link the exposure to those compounds with adverse health effects by (I) investigating changes in the metabolic pathways (applying metabolomics) and (II) evaluating adverse health outcomes in collaboration with epidemiologists. We also focus our research on the development of early warning systems for the detection of chemicals that may pose a threat to human health to prevent possible threats.

The selected candidate will have also a co-supervisor from SLU. <https://www.slu.se/en/research/research-excellence/research-infrastructure/laboratorier/pops-laboratory/>

The institute

The **Institute of Environmental Assessment and Water Research (IDAEA)** is an environmental science institute devoted to the study of the human footprint on the biosphere. Much of the research work at this institute is centred on two of the great environmental challenges of our time: cleanliness and availability of water and quality of air.

Founded in 2008 as a member of the **Spanish National Research Council (CSIC)**, the Institute brings together a wide range of expertise in environmental science. It is organized under two Departments (Environmental Chemistry and Geosciences), established with a strong record of publication in top scientific journals, leading international projects, membership on international committees, and adopting a high-profile contribution to the identification and remediation of environmental problems.

IDAEA has demonstrated strengths in the analysis of organic pollutants and their impact on ecosystems, the study and management of water resources, the development of multivariate resolution algorithms in chemometrics, and in the study of inhalable particulate matter and toxic gases.

IDAEA has been recently awarded with the distinctive **Centre of Excellence “Severo Ochoa”** (2020-2023), distinction that indicates the high-quality scientific leadership and global impact of the work developed at the centre.

We offer a diverse and inclusive environment where no discrimination against disability, gender, nationality, religion or sexual orientation will occur during the selection process.

How to apply?

Please submit your application as soon as possible to pablo.gago@idaea.csic.es Please include a **letter of motivation** explaining why you think you fit this position well, a **CV** with publications (if applicable), and the names and contact information of **two referees**.

For further information, please contact Dr. Pablo Gago Ferrero (pablo.gago@idaea.csic.es)

Deadline: 31 October (we encourage candidates to send their application as soon as possible)