

PhD Position in Aquatic Toxicology of PFAS

Junior Research Group Gölz, BioQuant @ Heidelberg University

Are you passionate about environmental toxicology and eager to unravel the effects of PFAS on aquatic organisms? At **BioQuant** of Heidelberg University, a PhD position is available at the earliest possible date in the **Junior Research Group Gölz**. This interdisciplinary research project explores the **effects and mechanisms of PFAS** at different biological levels, with a special focus on **cardiovascular toxicity** and additional interest in endocrine-related mechanisms. By working at the intersection of human and environmental toxicology, you will have the opportunity to advance Adverse Outcome Pathways (AOPs) and support the development of **New Approach Methods (NAMs)**, thereby contributing to a more sustainable and responsible management of environmental chemicals.

Research Areas and Methodological Focus

1. PFAS Toxicity and Underlying Mechanisms in Zebrafish Embryos

- Analysis of PFAS effects across different biological levels using molecular biology techniques such as gene expression analysis and transcriptomics, as well as histological methods
- Physiological investigations of cardiovascular effects, including heart rate measurements and live imaging
- Behavioral analyses to assess neurotoxicity and developmental impairment, including swimming behavior and light response assays

2. Development of Ecotoxicological Endpoints for PFAS Effects

- Application of current OECD fish test guidelines to evaluate PFAS effects in aquatic model systems, particularly OECD TG 236 (Zebrafish FET Test)
- Investigation of endpoints for the detection of cardiotoxicity, neurotoxicity and endocrine disruption induced by PFAS

3. AOP Development and Interdisciplinary Research

- Investigation of causal relationships across different biological levels
- Support for the further development of Adverse Outcome Pathways (AOPs) in toxicology



Your Profile: We are looking for highly motivated graduates with a Master's degree in Life Sciences, Environmental Sciences, Toxicology, Pharmacy, or a related field, who are enthusiastic about independent scientific work and able to contribute effectively to a collaborative team environment.

Applicants should have experience in one or more of the following areas:

- Fish husbandry and practical work with zebrafish is required
- OECD test protocols, especially OECD TG 236 (FET test) and other ecotoxicological fish assays
- Molecular biology and biochemical methods, including gene expression analysis and transcriptomics
- Histological and microscopic techniques, as well as immunohistochemistry
- Analysis of endocrine organs as well as neuronal and cardiovascular structures
- Behavioral analysis, including swimming behavior and light response

In addition, you should have:

- An independent, responsible and committed working style
- Strong teamwork skills
- Very good written and spoken English skills

We Offer

- Modern laboratory infrastructure and innovative technologies
- Active participation in scientific meetings and conferences
- Access to targeted training opportunities in ecotoxicology, 3R, tissue engineering, biomedicine, and cardiovascular research
- An excellent working atmosphere in a dynamic, young team within the newly established Junior Research Group Gölz

We look forward to receiving your application!

Please send your application documents, including a motivation letter, CV and relevant certificates, **by 7 April** to:

lisa.goelz@bioquant.uni-heidelberg.de

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