

The Laboratory of Environmental Biogeochemistry and Ecotoxicology at the University of Geneva, led by Prof. Slaveykova, invites applications for

## Two PhD positions in the field of phytoplankton nanoecotoxicology

These two 4-year positions are within the collaborative research project ENHANCER “Hormesis Responses in Phytoplankton Nanotoxicology and Implications for Ecological Risk Assessment”. This is collaborative project conducted under the Lead Agency Swiss National Science Foundation (SNSF) – US National Science Foundation cooperation between Switzerland and the USA. By providing a comprehensive evaluation of the response to engineered nanoparticle (ENP) exposure by phytoplankton, the base of the food chain, we aim to provide the basis for safer-by-design nano-enabled products.

**PhD student 1** will focus on ENP-induced hormesis in algae, investigating the impact of environmental parameters on this phenomenon and assessing various ecological risk assessment (ERA) scenarios.

**PhD student 2** will study the drivers and underlying mechanisms of ENP-induced hormesis in algae and utilize machine learning models to predict hormesis and toxicity.

Both sub-projects are experimentally focused and involve high-throughput bioassays using species representative of the most abundant classes of freshwater phytoplankton. They will assess multiple physiological and biochemical endpoints, employ metabolomics, and use machine learning and ERA scenario modeling. The project will be developed in close collaboration with Prof. A. Keller from the University of California, Santa Barbara, particularly in the areas of metabolomics, machine learning, and ERA modeling.

**We are looking for** independent and highly motivated candidates with a strong background and skills in environmental chemistry and biochemistry, biology, phytoplankton ecology, or environmental sciences, as well as a keen interest in scientific research and the aquatic environment. Good experimental skills in chemistry and biology, along with experience with phytoplankton species or nanoecotoxicology, would be advantageous. Applicants must hold or be on track to obtain prior to the start of the project, a diploma/master's degree or an equivalent level of education. Excellent proficiency in spoken and written English is essential.

**The successful candidates** will benefit from working within a young, dynamic, and collaborative multidisciplinary team in Slaveykova's lab at the University of Geneva and Keller's lab at the University of California, Santa Barbara.

**The successful candidates** will prepare a doctorate thesis in environmental sciences, publish scientific articles related to the research project and participate in the teaching of lab training courses for the Master of Environmental Sciences program. The salary will be in accordance with the SNSF and University of Geneva regulations for academic personnel.

Interested applicants are requested to send by email to [vera.slaveykova@unige.ch](mailto:vera.slaveykova@unige.ch) in a **single PDF file**

1. Cover letter, including short statement of motivation and qualifications
2. Current CV
3. Academic transcripts
4. Contact information for three potential referees

**Starting date: 1st of October 2024** or upon agreement.

**Closing date for applications: 15<sup>th</sup> of July 2024** or until the position is filled.

For further information about the Environmental Biogeochemistry and Ecotoxicology at the University of Geneva please visit our website pages: <https://www.unige.ch/ecotox/en/>