



**UNIVERSITÉ
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Postdoc position available in “image-based classification pipeline for Lake Geneva phytoplankton using machine learning”

The Microbial Ecology research group at the University of Geneva in Switzerland (www.unige.ch/meco/en) seeks a **2-year postdoc candidate** with skills in machine learning and image analysis. The overarching aim is to analyse time series of phytoplankton and environmental dynamics in Lake Geneva, one of the largest, most important, and best-studied lakes in western Europe. The project goal is to generate new insights into phytoplankton community dynamics by analysing high frequency datasets to help further our understanding of the drivers of temporal dynamics, and to improve ecological forecasts for Lake Geneva. A major focus will be on potentially toxic or nuisance species (including cyanobacteria) that affect lake services. The plankton – and associated environmental - data are collected autonomously from the unique LÉXPLORE floating research station in Lake Geneva (www.lexplore.info).

The primary task of this postdoc will be to refine and implement an image-based classification pipeline to quantify the abundance of phytoplankton taxa in lake water samples. Experience in applying machine learning techniques to image classification and/or time series problems would be a large advantage. The ideal candidate would have experience with implementing recent image classification methods in Python, such as CNNs, Deep Learning, Vision Transformers, etc. This classification pipeline will improve on an existing long-term monitoring program in the lake, from which data is also available.

The candidate will be aided in this effort by an existing codebase, a team with expertise in phytoplankton ecology and taxonomy, and lab expertise for sample analysis and image generation. There will also be opportunities for mentorship and supervision of students in the group.

The postdoc will be based in Geneva, Switzerland and the EU funded project will involve collaborations with a team of scientists in Switzerland and France. **Annual salary is in the 84,000 – 89,000 CHF** (88,000 - 93,000 EUR / 95,000 – 101,000 USD) range.

Bastiaan Ibelings and his team have practical and theoretical expertise in the ecology and ecophysiology of phytoplankton, as well as their predators (zooplankton, mussels) and parasites (chytrid fungi). The group works to understand the dynamics of these organisms using field work (spatial surveys and monitoring), lab and field experiments, data synthesis, and theoretical models.

If you are interested in this position, please send your CV and a short motivation letter to bastiaan.ibelings@unige.ch. We are available to answer questions you may have. This position is available at short notice but will remain open until a suitable candidate is found.