

Post-doctoral researcher in

Bioinformatics / Environmental Genomics

Department of Genetics and Evolution, University of Geneva

<https://genev.unige.ch/research/laboratory/Jan-Pawlowski>

A postdoc position (50 % to 100%) is available in the Department of Genetics and Evolution, University of Geneva, as part of a Swiss National Science Foundation project. The hosting laboratory is specialized in molecular ecology and evolution of microbial eukaryotes and is currently involved in several projects aiming at development of new environmental genomics tools for environmental biomonitoring.

Objectives: The position will focus on adapting and developing algorithms and statistical methods for the processing and data mining of high-throughput DNA sequencing data applied to the detection and quantitative assessment of environmental biodiversity responses to pollution in marine ecosystems. A part of the position will be dedicated to the maintenance of bioinformatics tools already developed and routinely used in our lab.

Rationale: Aquatic ecosystems are threatened by the rapid expansion of industrial activities. Solutions could emerge from the development of innovative tools based on the monitoring of biological communities in order to detect and measure the specificity and the magnitude of environmental impacts. Although multiple dimensions of the information delivered by high-throughput DNA sequencing technologies show great promise, many others remain unexplored. Hence, the development of powerful algorithms and robust statistical analyses are required to comprehend and fully exploit patterns of biodiversity changes and ensure fast and reliable assessments.

Required and preferred qualifications. We are looking for a highly motivated and autonomous researcher interested in bioinformatics and environmental genomics.

Applicants are expected to have:

- Experience in high-throughput sequencing data analysis (metabarcoding and/or metatranscriptomics and/or metagenomics).
- Experience in statistic tools applied to microbial ecology
- A background in programming (C, C++, Python, JavaScript, node.js), preferentially applied to bioinformatics and pipeline design and development.
- Proficiency in descriptive/inferential biostatistics and/or machine learning (R, Python or MATLAB).

Mode of application. To apply, please send an email to Jan Pawlowski (jan.pawlowski@unige.ch) and Tristan Cordier (tristan.cordier@unige.ch) containing a short letter of motivation, a detailed CV (including a brief description of research interests, previous employments and publication list), and contact details of at least two references (letters of recommendation are optional).

Job starts September 2018. The initial appointment is for a year, possibility of extension for a second year.