VACANCY NOTICE FOR A CONTRACT AGENT SELECTION

Job title	**FGIV - Scientist - Exploratory Research Project - Expert in Next Generation Sequencing and Metagenomics**
Reference	EC-2026-JRC-529514
Application deadline	**14/12/2026 - 12.00 (noon, Brussels time)**
Directorate-General (full name)	Joint Research Centre (JRC)
Unit	Land and Climate Unit
Place of assignment	Ispra, Italy
Domain	Science and Research
Contract type and Function Group	Contract Agent 3b FGIV

About us

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society.

The current vacancy is in the Directorate for Sustainable Resources - positioned at the crossroads of the environment, economy and society and coupled with scientific networks across the EU and beyond - informs policies to ensure that present and future generations enjoy a sustainable planet.

The vacancy is in Land and Climate Unit. Its cross-disciplinary science provides independent evidence in support of EU policies and international conventions on land and climate. It assesses land resources and the terrestrial carbon cycle, while analysing options for the sustainable management of soil and forest ecosystems in view of human and increasingly climate-related pressures to secure our natural resources and carbon sinks. The vacancy is in Ispra (VA), Italy.

The Centre for Advanced Studies oversees the overall JRC Exploratory Research Programme.

The vacancy is within the **Exploratory Research Project 'MICROorganisms for CLEANing the EnviRonment' (MICRO-CLEANERs)**. The JRC Exploratory Research Programme is a strategic initiative characterised by ideas that might lead to novel results and qualitatively enrich current JRC scientific work.

About the role

We offer a dynamic position in an international organization to assess the interplay between soil, water, biodiversity, land cover change and pollution including pesticides and PFAS. While water and soil are closely related – as pollution does not see barriers across ecosystems – research and policy often see them as separate entities. MICRO-CLEANERs' approach seeks to promote a more holistic, simplified approach within the scientific community and policy agenda by exploring bioremediation into these two compartments through a unique approach. Also, the investigated topics and expected results fit well into a One Health dimension by showing implications to environmental conservation, agriculture and human health, supporting e.g. the Water Framework Directive, Groundwater Directive, Environmental Quality Standards Directive and Chemicals Strategy for Sustainability.

MICRO-CLEANERs aims to develop large-scale environmental assessments (EU Scale) of the distribution of microorganisms/genes involved in bioremediation. In addition, the project will explore in-field mechanisms needed to up-scale bioremediation treatments.

MICRO-CLEANERs will use environmental DNA-based approaches that allow examining biodiversity in unprecedented detail, with the possibility to discover new microorganisms and metabolic processes in involved bioremediation. The project will generate one of the largest EU soil/water genomics databases open to the scientific community, to be analysed with bioinformatics tools and AI-based approaches. MICRO-CLEANERs targets not just known (pesticides) but also emerging pollutants (PFAS), whose occurrence is measured in field samples. Therefore, the project aims to study the complex interactions among environmental factors (e.g. soil/water properties and climate), living communities and pollutants as they occur in the environment.

The Exploratory Research Project MICRO-CLEANERs will have potential to inform policymaking about pollution hotspots in Europe and potential microbial resources to mitigate. The project can support EU environmental goals on pollution reduction, soil health, water resilience and sustainable land management. Improving the evidence base for effective bioremediation may also lower remediation costs and boost the market potential of innovative environmental technologies. By identifying potential bioremediation genes, the project aims to guide future biotechnological research on in-field applications.

We offer high-quality working conditions in a dynamic environment and in a multidisciplinary and multicultural team. The JRC encourages a collaborative workplace culture and interactions with policy makers, academics and other leading stakeholders active in the field are foreseen. The job includes participation in (international) conferences and (hybrid) workshops, as well as occasional travel. The successful candidate will join the EU Soil Observatory (EUSO) and the Environmental Biotechnology Laboratory (EBL). Please see also Working at the European Commission.

The successful candidate will carry out scientific and technical tasks in accordance with the Exploratory Research Project Project 'MICROorganisms for CLEANing the EnviRonment' (MICRO-CLEANERs) with special emphasis on next generation sequencing and metagenomics of soil and water microbial communities for a better understanding of interactions between pollution and microbial ecosystems.

The jobholder will concentrate on:
• Collecting, extracting and processing microbial DNA from water samples;
• Performing shotgun metagenomics sequencing through standardized protocols;
• Bioinformatics analysis of DNA sequences from soil and water samples, extracting gene sequences and their putative functions;
• Establishment of priority lists of PFAS and pesticides based on the Prioritisation Framework for Soil contaminants (as in the Soil Monitoring Law) and on current EU Page 3 of 4 water legislation (i.e. Water Framework Directive, Environmental Quality Standards Directive and Groundwater Directive);
• Supporting the screening of soil and water samples for the presence and concentration of priority PFAS and pesticides;
• Determining the relationships between genes, contaminants and environmental factors through statistical models;
• Providing regular and accurate reports on scientific activities every twelve months and a final report;
• Reporting to the Project Leader on progress, achievements and potential problems in a timely manner;
• Providing feedback and maintaining interactive communication with colleagues;
• Explaining the research activities and achievements to third parties, such as scientific communities and the public;
• Writing, disseminating and publishing results, among others, in peer-reviewed journals

Qualifications, experience and skills

We are looking for a highly motivated researcher with the following essential qualifications:

• A PhD in molecular biology, genetics, soil science, water science, environmental sciences or related fields. Alternatively, a university degree in those fields and at least 5 years of proved job-related experience in a field relevant to the position;
• Previous research or professional experience in the field of next generation sequencing, genomics or metagenomics. The experience should be proved and cover at least 1 year of activity;
• Extensive knowledge and experience in the collection and analysis of genomic or other 'omic' data, ideally from environmental samples;
• Familiarity with Illumina technology and instruments, DNA extraction and quantification protocols, and laboratory best practices;
• Basic knowledge of bioinformatics concepts and tools for genomics and metagenomics (e.g. BLAST, KEGG);

• Solid skills in statistics to collect and process large volumes of information (Big Data), and make decisions or recommendations based on quantitative analysis (e.g. principal component analysis, normalization, multiple testing correction);
• Solid record of research activities including publications in international peer-reviewed journals;
• Very good oral and written communication skills in English (C1 level).

In addition, the following competences will be considered an advantage:

• Knowledge of bioremediation, ecology, soil science and biodiversity science;
• Extensive experience with advanced concepts and tools for genomics and metagenomics (e.g. assembly, binning);
• Experience with numerical computing languages (e.g. R, Python);
• Experience with tools and instruments for metabolomics (e.g. gas chromatography);
• Knowledge of machine/statistical learning and related artificial intelligence methods;
• Knowledge of geo-information systems (GIS) and experience with large scale datasets;
• Knowledge of other languages;
• Ability to work in a team and in a multi-cultural environment.

The candidate is expected to be creative and work independently.

How to express your interest?

Please submit your application via the JRC Recruitment Portal.
Being registered for at least one of the two following databases is also necessary:

- the Selection process for contract staff | EU Personnel Selection – EU Careers (EPSO CAST FG IV), which is used by a wide range of organisations (institutions, bodies, offices and agencies of the European Union), or
- the JRC Open Call for Researchers, (JRC Call COM/1/2015/GFIV – Research), which is mainly used by the JRC.

Eligibility

For eligibility please consult this page with all the information needed.