VACANCY NOTICE – 2023-KRU-S4001-FGIV-022714

FG IV Scientist - Exploratory Research Project

Exploitation of Critical rAw materials REcovered from nuclear FUEL wastes (CAREFUEL)

Type of contract	Member of the European Commission's contract staff, Function Group IV (article 3b of the Conditions of Employment of Other Servants)
Duration of contract	36 months employment contract for the Exploratory Research Project Exploitation of Critical rAw materials REcovered from nuclear FUEL wastes (CAREFUEL). Employment contracts for this category of staff can be renewed up to maximum 6 years.
Area	Nuclear Science and Technology
Place of employment	Karlsruhe (DE)
Indicative basic salary	3877,47 - 5616,29 € (applicable as of 1st of July 2022) For more detailed information please consult: Working Conditions

WE ARE

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 Nuclear Material Research Unit of the Directorate for Nuclear Safety and Security. The Directorate supports the implementation of the JRC Euratom research and training program, the maintenance and dissemination of nuclear competencies in Europe. The operational scientific research will take place in the Nuclear Materials Research unit, in collaboration with the Energy Storage unit (Petten).

The Scientific Development Programmes Unit is in charge of the overall JRC Exploratory Research Programme.

The vacancy is within the **Exploratory Research Project Exploitation of Critical rAw materials REcovered from nuclear FUEL wastes (CAREFUEL)**. 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.

We offer:
An excellent opportunity to contribute to assessing the possibility to recover and reuse the critical raw materials that are produced during fission of nuclear fuel in commercial power reactors. Such valuable elements are currently disposed of as nuclear waste. Combining multisite desktop and experimental research, we expect to identify the technological

applications that will most benefit from the use of the critical raw materials recovered from the currently unutilised resources of used nuclear fuels. For any scenario, we aim to evaluate the technical and economic feasibility, the strategic importance and the safety aspects.

WE PROPOSE

The jobholder will carry out scientific tasks in accordance with the Exploratory Research Project Exploitation of critical raw materials recovered from nuclear fuel wastes (CAREFUEL).

S/he, working together JRC staff, will:

- Perform a state-of-the-art assessment of critical raw materials reuse from nuclear fuel;
- Conduct experiments with (surrogate) nuclear material and/or simulations as needed to fill the knowledge gaps;
- Planning of an experimental setup for continuation beyond the exploratory research work, based on the selected technology;
- Write, publish and present scientific reports, articles and conference papers;
- Provide regular and accurate reports on scientific activities every twelve months and a final report.

WE LOOK FOR

A scientist with the following essential qualifications:

- A doctoral diploma in Materials Engineering, Materials Science, Chemistry, Nuclear Engineering or related field;
- Extensive knowledge and hands-on experience in lab work (e.g. chemistry, materials science/engineering);
- Broad knowledge in at least one of the areas of chemistry, materials, nuclear fuel cycle, or relevant technological fields where critical raw materials are used (for example fuel cells and electrolysers);
- Good oral and written communication skills in English (B2).

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

- Knowledge in one or more of the fields of catalysis, nuclear engineering, nuclear fuel cycle, radiochemistry or economics;
- Solid record of research activities relevant for the position including publications in international peer-reviewed journals;
- 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 APPLY

If you are **already on a valid CAST FG IV reserve list**, or you **have already applied to one of the calls below**, you can directly submit your application at http://recruitment.jrc.ec.europa.eu/?type=AX.

Interested candidates should provide a CV and cover letter explaining their motivation and aptitude for the vacancy and the described research areas and tasks. In the list of

publications accompanying the CV, please highlight your five most relevant publications.

If not, before applying to this position, **you must register** for one of the two following:

- the Call for Expressions of Interest | EU Careers (europa.eu) (CAST Permanent FG IV), which is used by a wide range of organisations (institutions, bodies, offices and agencies of the European Union), or
- the specialised call for researchers (JRC Call COM/1/2015/GFIV – Research), which is mainly used by the JRC.

Note that each of the calls above has **different minimum eligibility requirements and different selection tests**.

The JRC cultivates a workplace based on respect for other people and the environment, and embraces non-discriminatory practices and equality of opportunity. In case of equal merit, preference will be given to the gender in minority.