



2019-PTT-A5-FGIV-011512

**FGIV – Scientist - Exploratory Research Project
Irradiation of Nanoparticles to produce Radio-
isotopes (ir-NANO)**

Position for:

FG IV Scientist

As the science and knowledge service of the Commission, the mission of DG Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.

The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at <http://ec.europa.eu/jrc/>

The JRC offers a vacancy for a Contract Agent within the Exploratory Research Project ir-NANO (Irradiation of Nanoparticles to produce Radio-isotopes).

The JRC Exploratory Research Programme (ER) is a strategic initiative characterised by ideas that might lead to novel results to qualitatively enrich current JRC scientific work.

The ER Project ir-NANO will develop and characterise an innovative process allowing the separation of isotopes produced in a nuclear reaction by exploiting the energy of the recoils produced by the nuclear reaction during the irradiation. The material irradiated is a liquid suspension containing nanoparticles of the material to irradiate, with a diameter inferior to the range of the produced recoil. In these conditions, the isotope can escape from the nanoparticle and can be collected directly from the liquid after centrifugation. The process could therefore in principle avoid or strongly reduce the use of chemical processes and even mass separation to isolate the isotopes synthesized during irradiation.

The successful candidate will be in charge of:

- Executing the experiments within the Exploratory Research project ir-NANO;
- Development of the process by spark ablation technology;
- Characterise nanoparticles produced by physical and chemical methods (XRD, SEM, TEM etc);
- Design and carry out scientific and technical research, experiments and developments;
- Check and evaluate results. Run statistical analysis;
- Provide regular and accurate reports on scientific activities every twelve months and a final report;
- Propose new activities, including competitive activities, where relevant;
- Dissemination/publication of results.

Qualifications:

- Completed university studies of at least three years attested by a diploma and at least five years professional experience in a field relevant to the position, alternatively a doctoral diploma in Physics, Chemistry, Materials Science or related field;
- Extensive knowledge/experience in (nano)materials characterisation is essential;
- Broad knowledge in the area of electron microscopy is

	<p>essential;</p> <ul style="list-style-type: none"> • Knowledge of materials under irradiation is an advantage; • Solid record of research activities relevant for the post including publications in international peer-reviewed journals is an advantage; • Good oral and written communication skills in English (B2) are essential, knowledge of other languages is an advantage. <p>In addition, the following competences will be considered as an advantage:</p> <ul style="list-style-type: none"> • Ability to work in a team and in a multi-cultural environment; • The candidate is expected to be creative and work independently.
<p>Directorate Unit</p> <p>Project</p>	<p>Nuclear Safety and Security Nuclear Reactor Safety and Emergency Preparedness</p> <p>The Scientific Development Unit of the Directorate for Strategy and Work Programme Coordination is in charge of the overall JRC Exploratory Research Programme.</p> <p>The operational scientific research will take place in the Nuclear Reactor Safety and Emergency Preparedness Unit in Petten (The Netherlands), in collaboration with the Standards for Nuclear Safety, Security and Safeguards Unit in Geel (Belgium) and the Consumer Products Safety Unit in Ispra (Italy).</p> <p>Exploratory Research Project: Irradiation of Nanoparticles to produce Radio-isotopes (ir-NANO)</p> <p>Further information is available at: https://ec.europa.eu/jrc/en/research-topic/nuclear-safeguards</p>
Indicative Duration	24 months
<p>JRC Site</p> <p>Country</p>	<p>Petten</p> <p>The Netherlands</p>
Rules and eligibility	<p>The candidate must be on any valid EPSO reserve list for Function Group IV contract staff.</p> <p>Applicants to the following Calls for expression of interest can also be considered:</p> <ol style="list-style-type: none"> 1. CAST Permanent - EPSO has launched in January 2017 an open-ended selection procedure to create a pool of candidates from which the institutions, bodies, offices and agencies of the European Union (EU) can recruit contract agents. Details available at the link below: https://epso.europa.eu/documents/2240_en 2. Call COM/1/2015/GFIV – Research - The JRC has launched in January 2015 a permanent call for researchers FG IV. Details available at the link below: https://ec.europa.eu/jrc/en/working-with-us/jobs/vacancies/function-group-IV-researchers

Auxiliary contract staff:

<https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/contract-staff-members>

Article 3b of the Conditions of Employment of Other Servants of the European Union applies: the actual period of employment within the Commission under this type of contract, including any period under renewal, shall not exceed 6 years.

Please note that in case a high number of applications is received only shortlisted candidates will be contacted.