EUROPEAN COMMISSION
DIRECTORATE-GENERAL
JOINT RESEARCH CENTRE

2017-KRU-GI3-FGIV-9105	**Exploratory Research Project Title** **Use of ion beams to emulate the effects of neutron irradiation in nuclear reactor components (IB4N)**

Position for: **FG IV Scientific Project Officer**	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 Exploratory Research Programme (ER) is a strategic initiative characterised by ideas that may lead to novel results, which are going to qualitatively enrich the current scientific work at the JRC. The JRC is offering a position for a contract agent in the context of the IB4N exploratory research project. **Short description of activity:** The present ER project concerns experimental work on ion irradiation of uranium dioxide samples as a means to emulate the effects of alpha-decay irradiation in nuclear fuels, and their characterisation after irradiation. The characterisation will be done by Transmission Electron Microscopy (TEM), helium desorption spectrometry and XRD. The aim of the project is to develop methods for sample preparation, measurement procedures and data treatment and analysis. Focused Ion Beam microfabrication, Helium thermal desorption, XRD and TEM will be the main techniques used. The candidate will be in charge of performing the irradiation experiments, sample characterisation, analysing the data and reporting. **Qualifications:** • Doctoral degree (or equivalent) in Physics or Materials Science or related field. As equivalent is considered University studies of at least three years attested by a diploma and at least 5 years of research experience in a field relevant to the position. • Knowledge in X-ray diffraction, mass-spectrometry or TEM is essential. • Knowledge of radiation effects on materials microstructures will be an advantage. • Good oral and written communication skills in English are essential, knowledge of other languages an asset. • Excellent record of research activities including publications in international peer-reviewed journals In addition, the following elements will be considered as an advantage: • Ability to work in a team and multi-cultural environment • The candidate is expected to be creative and work independently. The Joint Research Centre is an equal opportunity employer and is committed to increasing the diversity of its staff. It welcomes applications from women and minority groups.

Directorate **Unit** **Project**	Directorate G - Nuclear Safety and Security Unit G.I.3 - Nuclear Fuel Safety, Unit A.5 (Scientific Development) is in charge of the overall JRC Exploratory Research Programme; The operational scientific research will take place in unit G.I.3. Exploratory Research project IB4N (Use of ion beams to emulate the effects of neutron irradiation in nuclear reactor components) Further information: https://ec.europa.eu/jrc/en/science-area/nuclear-safety-and-security https://ec.europa.eu/jrc/en/research-topic/nuclear-safety
Duration **Preferred starting date**	24 months 01/01/2018
JRC Site **Country**	Karlsruhe Germany
Rules and eligibility	**The candidate must be on a valid EPSO reserve list for Function Group IV contract staff or have applied to the permanent open call for researchers FG IV:** 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 *Please note that due to the high number of applications received only shortlisted candidates will be contacted.*