EUROPEAN COMMISSION
DIRECTORATE-GENERAL HUMAN RESOURCES AND SECURITY
Directorate HR.AMC –Account management Centre
HR.DDG. AMC 8

2018-IPR-G-000-9968	**Characterization of an NDA instrument for mass determination of fissile material in waste**

Position for: Trainee	As the science and knowledge service of the Commission, the mission of 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://www.jrc.ec.europa.eu **Short description of activity:** The Joint Research Centre operates a waste drum monitor for nuclear safeguards verifications of Pu in nuclear waste. The instrument, a large passive neutron detector for 220-litre drums, has recently been refurbished to improve the neutron detection system. Before the instrument can return to field operation the new neutron detection system, based on 3-He gas proportional counters, needs to be tested and characterized. The main part of the collaboration includes laboratory experiments, data analysis and interpretation, and reporting. This concerns measurements with sealed neutron sources and spontaneous fission sources for the purpose of determining parameters such as neutron detection efficiency, system dead-time, background characteristics, and detection limits of Pu in thin and dense matrices. The trainee will become familiar with experimental techniques and the instrumentation used in neutron NDA methods for nuclear safeguards. Also the standard measurement procedures for neutron counting in nuclear safeguards will be applied.

	Qualifications: **Essential:** • University degree in nuclear engineering, experimental physics or reactor physics. • Knowledge of radiation detection and neutron interactions with matter. **For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:** https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees
Unit /Directorate	Nuclear Security Unit, G.II.7
Indicative duration **Preferred starting date**	5 months As soon as possible
JRC Site **Country**	Ispra Italy
JRC contact details	**For any technical problems with your application, please contact:** HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu