



2018-IPR-G-000-010115

Nuclear Material Characterisation with High Energy Gamma-ray Spectrometry

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 Nuclear Security Unit (GII7) is seeking for a trainee on nuclear material characterisation with high energy gamma-ray spectrometry. The unit focus is on state of the art enabling research, the use of specific technology, development of instruments and methods, delivering technical services and training in the domain of nuclear safeguards, non-proliferation and nuclear security. In this way, the unit supports the verification of international treaties and agreements related to nuclear safeguards and non-proliferation.

At the center of the unit's activities there are nuclear non-destructive detection methods, process monitoring and containment & surveillance technology and methods.

These core-activities are complemented with proliferation assessment of new reactor systems, specialist analysis and use of open-source data including satellite imagery analysis, trade data analysis, strategic trade control and monitoring the dual use regulation, and last but not least border monitoring and the design of protocols to be used in the field of detection of nuclear materials outside regulatory control.

We propose a trainee position within the GII7 tomography team (GII7 Unit) to participate in all R&D activities on Non-Destructive Assay (NDA) either for nuclear safeguards or nuclear

	<p>decommissioning and waste management. The candidate will be trained to participate to measurement campaigns on delayed gamma spectrometry namely experiencing high energy gamma detection. This includes characterisation on neutron fields in an irradiation chamber used for interrogation of nuclear material.</p> <p>The trainee will be able to participate to all activities in the laboratory such as experiments preparation including simulation, instrument calibrations, drafting technical reports and possibly scientific publications.</p> <p><u>Qualifications:</u></p> <p><u>Essential:</u></p> <ul style="list-style-type: none"> • Master student (or equivalent) and preferably a Postdoc level in any scientific field preferably in nuclear. • Experience in gamma-ray spectrometry at low energy for NDA techniques in nuclear field (and desire to extend his/her experience in high energy gamma-ray detection and in neutron fields characterisation via fission quantification) • Good knowledge of English language (B2 level) <p><u>Advantage:</u></p> <ul style="list-style-type: none"> • experience with Monte Carlo Modelling <p><u>For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:</u></p> <p>https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees</p>
Unit /Directorate	<p>Unit G.II.7 – Nuclear Security Directorate G – Nuclear Safety and Security</p> <p>Further information: https://ec.europa.eu/jrc/en/research-topic/nuclear-safeguards-and-security</p>
Indicative duration	5 months
Preferred starting date	As soon as possible
JRC Site	Ispra
Country	Italy

JRC contact details

For any technical problems with your application, please contact:
HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu