



**2018-IPR-R-000-010184**

**MCNP simulation for ALARA evaluation**

<p><b>Position for:</b></p> <p>Trainee</p>	<p>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.</p> <p>The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: <a href="http://www.jrc.ec.europa.eu">http://www.jrc.ec.europa.eu</a></p> <p><b><u>Short description of activity:</u></b></p> <p>The Joint Research Centre is designing a new laboratory with a neutron generator based on D-T interaction for research activities in the area of nuclear safeguards applications. Prior to the laboratory construction, a radiation protection and safety analysis should be carried out to optimise the shielding characteristics of the facility structures based on the ALARA principle.</p> <p>The main part of the collaboration includes the modelling of the neutron source and of the laboratory structures by means of MCNP calculation. The results will be used by the JRC-Ispra Qualified Expert for the legally required radiation protection evaluation. Multiple configurations of the neutron source will be simulated and evaluated under the supervision of the JRC-Ispra Qualified Experts. The trainee will become familiar with the experimental system and with the radiation protection analyses applied to nuclear safeguard application and techniques.</p> <p><b><u>Qualifications:</u></b></p> <p><u>Essential:</u></p> <ul style="list-style-type: none"><li>• B.Sc in Engineering or Physics;</li><li>• Knowledge of MCNP calculation Code.</li><li>• Good knowledge of spoken and written English (level B2).</li></ul>
--	---

	<p><u>Advantage:</u></p> <ul style="list-style-type: none"> <li>• Knowledge of other Radiation Protection/ALARA software or calculation codes (e.g. Visiplan, Microshield...).</li> </ul> <p><b><u>For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:</u></b></p> <p><a href="https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees">https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees</a></p>
<b>Unit /Directorate</b>	Safety & Security R.I.5/Resources
<b>Indicative duration</b>	5 months
<b>Preferred starting date</b>	As soon as possible
<b>JRC Site</b>	Ispra
<b>Country</b>	Italy
<b><u>JRC contact details</u></b>	<p><b>For any technical problems with your application, please contact:</b></p> <p><a href="mailto:HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu">HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu</a></p>