



**Project sheet reference n°
2019-KRU-G-000-012449**

Machine learning in nuclear forensics

<p>Position for: trainee</p>	<p>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.</p> <p>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</p> <p><u>Short description of activity:</u> The morphology and the chemical composition of selected uranium compounds (ore concentrates) obtained by different process technology, may provide important information on the processing history of the material. Within the exploratory research IDENTICLASS, the image texture and NIR spectroscopy classification models have to be developed for the rapid identification of unknown uranium powders. The so called textural and hyperspectral images have to be analysed testing different image texture feature extraction algorithms and different multivariate image analysis approach. Moreover, different classification algorithms with different classification strategies have also to be explored.</p> <p><u>Qualifications:</u></p> <p><u>Essential</u></p> <ul style="list-style-type: none">- Basic knowledge in radiochemistry, nuclear physics or a related field.- knowledge in statistical techniques, univariate and multivariate- Good command of the English language, minimum level B2. <p><u>Advantage</u></p> <ul style="list-style-type: none">- Knowledge in image analysis and programming are advantage <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>
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Directorate Unit	JRC.G, Nuclear Safety and Security (Karlsruhe) JRC.G.II.6, Nuclear Safeguards and Forensics JRC.G.III.8, Waste Management Further information: https://ec.europa.eu/jrc/en/about/organisation https://ec.europa.eu/jrc/en/science-area/nuclear-safety-and-security
Indicative duration	3-5 months
Preferred starting date	January 2020
JRC Site	Karlsruhe
Country	Germany
<u>JRC contact details</u>	For any technical problems with your application, please contact: hr-amc8-recruitment-tools-support@ec.europa.eu