



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL  
JOINT RESEARCH CENTRE  
Directorate B - Resources  
Recruitment and Training

2016-IPR-E-000-7306

**Mechanical Design of Ultrasonic Sealing & Authentication Systems**

<p><b>Position for:</b></p> <p>Trainee</p>	<p><b><u>Short description of activity:</u></b></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>With 7 Scientific Institutes, 3 Corporate Directorates and the DG/DDG Office, 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>The Nuclear Security Unit provides enabling research, technology, instruments, technical services and training for nuclear safeguards, non-proliferation, nuclear security and emergency preparedness to inspection agencies, States and operators. Activities range from nuclear non-destructive analysis and process monitoring to containment &amp; surveillance, verification and detection technologies, including the proliferation assessment of new reactor systems, border monitoring and the specialist analysis of open-source information and satellite imagery. Inside the Nuclear Security Unit, the Seals &amp; Identification Lab (SILab) develops innovative Identification &amp; Sealing Systems for Safeguards application in use worldwide by Euratom and IAEA inspectors.</p> <p>The selected candidate will assist in the work for SILab, on the mechanical design of innovative solutions aimed at the identification &amp; authentication of seals &amp; containers.</p> <p>The tasks to be carried out under supervision of traineeship adviser will include:</p> <ul style="list-style-type: none"><li>• Mechanical design, using Computer Aided Design tools</li><li>• Mechanical dimensioning based on finite element analysis</li></ul>
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	<ul style="list-style-type: none"> <li>• Production of technical drawings</li> <li>• Follow up development of prototypes</li> <li>• Run mechanical and environmental tests (vibration, fall down, temperature, ...)</li> <li>• Write technical reports</li> </ul> <p><b><u>Qualifications and requirements:</u></b>  <u>Essential.</u> Candidate must have:</p> <ul style="list-style-type: none"> <li>✓ a degree in Mechanical Engineering.</li> <li>✓ practical use of a Computer Aided Design software, preferably SolidWorks.</li> <li>✓ knowledge of finite element analysis and simulation software, preferably SolidWorks Simulation.</li> <li>✓ excellent command of the English language, both oral and written (level B2)</li> </ul> <p>The following represents <u>an advantage</u>:</p> <ul style="list-style-type: none"> <li>• Good knowledge of Italian language</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>Institute/Directorate Unit</b>	<p>Institute for Transuranium Elements  Nuclear Security Unit</p> <p>Further information:  <a href="https://ec.europa.eu/jrc/en/institutes/itu">https://ec.europa.eu/jrc/en/institutes/itu</a></p>
<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>  <a href="mailto:JRC-ESRA@ec.europa.eu">JRC-ESRA@ec.europa.eu</a></p>