



**2019-PTT-C-000-011989**

**Mechanical effects in batteries**

<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>The vacancy is in Petten (NL), within the Directorate for Energy, Transport and Climate. This Directorate provides support to Community policies ensuring sustainable, safe, secure and efficient energy production, distribution and use and fostering sustainable and efficient mobility in Europe and provides scientific and technical analyses in support to integrated air quality, climate and related policies. The Energy Storage Unit performs scientific research and operates various laboratories (for performance and safety assessment of battery, fuel cell and hydrogen technologies) in support of European energy and transport policies.</p> <p><b><u>Short description of activity:</u></b></p> <p>Li-ion batteries are the key enabling technology to store electricity in electric vehicles. JRC performs experimental and desktop studies of performance of Li-ion batteries. Electrode swelling is expected to become a critical factor for battery degradation as future electrode materials exhibit pronounced swelling behaviour, which will lead to stress or mechanical deformation. Methods best suited to characterize swelling-related effects will be evaluated and applied. The successful candidate will contribute to this JRC activity.</p> <p>JRC is looking for a trainee to perform the following main tasks:</p>
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	<ul style="list-style-type: none"> <li>Analyze existing scientific literature and measurement techniques related to the electrode swelling in Li-ion batteries</li> <li>Perform experiments and/or analyze experimental data related to detection and quantification of the effect of electrode swelling on battery performance and ageing (guided by other JRC staff)</li> </ul> <p><b><u>Qualifications:</u></b></p> <p>Required qualifications:</p> <ul style="list-style-type: none"> <li>University-level degree (or equivalent, European Qualifications Framework level 6 at least) in a relevant field (e.g. chemistry or materials science)</li> <li>A good oral and written knowledge of English is required (level B2).</li> <li>Good communication and inter-personal skills</li> <li>Knowledge of basic software applications (e.g. Word)</li> </ul> <p>The following qualifications are an asset:</p> <ul style="list-style-type: none"> <li>Experience in collection and reporting of scientific results</li> <li>Knowledge of and experience with battery technology and battery testing techniques</li> </ul> <p>The JRC applies an equal opportunities policy, in case of equal merit, preference will be given to the gender in minority.</p> <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>	<p>Directorate for Energy, Transport &amp; Climate, C.1 Energy Storage Unit</p> <p>Further information:  <a href="https://ec.europa.eu/jrc/en/research-facility/battery-energy-storage-testing-safe-electric-transport">https://ec.europa.eu/jrc/en/research-facility/battery-energy-storage-testing-safe-electric-transport</a> </p>
<b>Indicative duration</b>	5 months
<b>Preferred starting date</b>	As soon as possible
<b>JRC Site</b>	Petten
<b>Country</b>	THE NETHERLANDS
<b><u>JRC contact details</u></b>	<p>For any technical problems with your application, please contact:  <a href="mailto:HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu">HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu</a> </p>