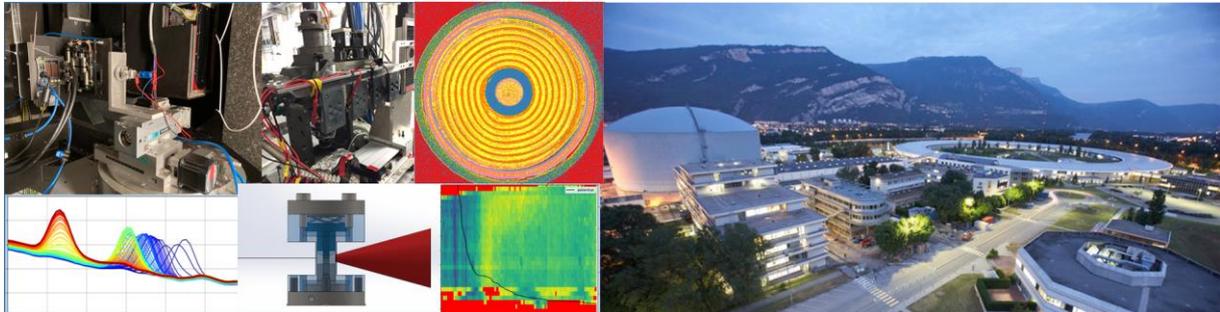




36 months post-doctoral position



Investigation of electrode microstructure and heterogeneities by *ex situ* and *operando* synchrotron micro/nanotomography



A 36-month post-doctoral position is offered at the Institute of Grenoble Interdisciplinary Research (IRIG, France). IRIG is a joint CEA-UGA fundamental research institute with extended research programs on energy conversion and storage. The post-doctoral position is offered in the framework of a 4-years collaborative project with TotalEnergies/SAFT, dedicated to investigate full Li-ion commercial batteries and provide understanding of reaction & ageing mechanisms by means of *operando* neutron and synchrotron techniques at world-class Large Scale Facilities, coupled with electrochemical characterizations at CEA and SAFT and modelling at TotalEnergies.

Objectives. The project aims at investigating the morphology and structure of electrodes after few cycles and long-term cycling under different charge regimes, both post-mortem and *operando*. We will employ advanced 3D techniques as synchrotron micro- and nano(holo)tomography. The morphological results will be combined with other techniques (modelling, lab characterization, scattering/spectroscopy at neutron and synchrotron beamlines) performed by another post-doctoral fellow in the frame of the project. The experiments will be performed on home-made battery cells at the European Synchrotron Radiation Facility (ESRF) in Grenoble.

Hosting teams. The post doctorate fellow will benefit from the know-how gained at IRIG (www.irig.cea.fr) over the past years on *operando* battery characterization and evolve in a multidisciplinary environment (electrochemists, chemists and physicist), he/she will interact also with the industrial partner. Grenoble is an exciting place to live and do science!

Applicant profile. The post doctorate fellow will design/test battery cells for X-ray experiments, plan/realize the experiments, analyze/interpret the sets of data. We are looking for a physicist and/or materials scientist highly motivated by characterization of nanomaterials/nanostructures and having experience in tomography, image processing and statistical analysis. Prior knowledge on batteries is not mandatory.

Application: Please join a CV, a cover letter and two recommendation letters. Dead-line : 1st Nov. 2022. **Contact:** sandrine.lyonnard@cea.fr ; Quentin.jacquet@cea.fr