

Post-doctoral researcher or research engineer

Development of water-based electrode processing for Li-ion and Na-ion batteries

Context and goal

In the framework of several research projects and collaborations with industrial partners, the Department of Chemical Engineering recruits a post-doctoral researcher or a research engineer with strong experience in battery electrode manufacturing and characterization.

The general aim is to further **develop water-based electrode manufacturing and assembly processes for lithium-ion batteries** that the laboratory has worked on in the past few years. Active materials and additives are usually provided by our partners to be used in original water-based electrode processing. Electrode formulation and characterization helps guiding the research towards compatibilization of active materials and additives with water-based electrode formulation and processing. Issues to overcome are usually (i) reactivity with water and (ii) dispersibility in the electrode formulation.

Role of the post-doctoral researcher/research engineer

The main role of the hired researcher will be to manufacture and fully characterize battery electrodes from materials (raw or modified), either developed at the laboratory or received from industrial or academic partners, both in coin-cells and in pouch-cells. The latter technique still has to be developed properly (and possibly coupled with sensor integration for data collection). He/she will check for the compatibility of the electrode materials with the water-based processes previously developed at the NCE laboratory. He/she will participate to the further development of the battery assembly platform (equipment set up) and to the supervision of PhD students.

Information

- *General:* The researcher will be hired by ULiège (Belgium). The work will mainly take place in Liège (Department of Chemical Engineering – Nanomaterials, Catalysis, Electrochemistry).
- *Profile:* PhD in Engineering/Sciences **or** Engineer/Master in Sciences with a strong experience in electrochemistry, especially in Li-ion battery manufacturing and characterization.
- *Language:* fluent English (mandatory).
- *Duration:* 1 year, renewable once (minimum)
- *Start:* Whenever possible
- *Application:* please send a detailed CV and a motivation letter highlighting your skills and interests related to this specific proposal to Nathalie.Job@uliege.be
- *Application deadline:* March 31st 2024
- *Supervisor:* Prof. Nathalie Job - Department of Chemical Engineering – Nanomaterials, Catalysis, Electrochemistry.