

Developing an Understanding of the Costs of Manufacture for Li-S Batteries (Co-Working with Exawatt)

Project Description

In recent years, the lithium-sulfur (Li-S) battery has emerged as a leading next-generation candidate for deployment in applications for which high energy density is critical, including drones and aircraft. One of the key driving forces behind this is the use of a sulfur cathode, which has the potential to enable comparatively low cost cells. Alongside rapid ongoing developments in the science, there is a need to assess the broader cost of manufacturing for Li-S technology. In this project the intern, supported by the LiSTAR leadership team will work with Exawatt, a UK company that specialises in the manufacturing cost and performance forecasting in renewable energy industries, to assess the commercial prospects of Li-S batteries. Through this work, the intern will make a direct contribution to the development of the next generation of battery systems.

Project Goals

Join the Faraday Undergraduate Summer Experience (FUSE) internship programme and learn more about the development of next generation lithium sulfur batteries, which will help in the development of a career in the field of battery technology and energy storage. In conducting the project:

- You will be working with a leading research group to develop the tools to investigate the commercialization of Li-S batteries
- You will gain an in depth understanding of the operation of Li-S cells and the materials which are used to make them
- You will develop your analytical skills and examine the impact of variations in cost of raw materials on Li-S cells
- You will develop your presentation and reporting skills and enter a poster competition based on your research

Eligibility

In order to partake in the project you must be:

- A full-time registered undergraduate student at a UK university
- Undertake the internship within the years of undergraduate study (i.e. not be currently in your final year)
- Not have been a FUSE intern in a previous year

This project will be run remotely therefore; there is no requirement for the student to be based in London for the project.

Funding

A salary of £9.90/hour across the UK or £11.05/hour in London will be provided. This will be determined by the working address of the appointee not the universities location. The internship is a full-time role for a period of 8 weeks between June and September. The funding is provided by [The Faraday Institution](#).

Additional activities

During the FUSE internship you will be able to attend Faraday Masterclasses and cohort events which will focus on a variety of topics to further develop your understanding of career opportunities in battery sector. At the end of the programme, you will be invited to to share a poster about your work and prizes will be awarded.

Application

In order to apply for a Faraday Undergraduate Summer Experience (FUSE) 2022 internship, please send a short cover letter and CV to j.b.robinson@ucl.ac.uk by May 6th 2022 with 'LiSTAR FUSE Application' in the subject bar.

Diversity

The Faraday Institution is committed to creating a dynamic and diverse pool of talent for the fields of battery technology and energy storage. Our Department is committed to an inclusive and supportive culture for all. In recruiting, we welcome the unique contributions that everyone can bring in terms of their education, opinions, culture, ethnicity, race, sex, gender identity and expression, nation of origin, age, languages spoken, religion, disability, sexual orientation and beliefs. We continually strive to have the systems in place to ensure that all members of the Department have equal access to opportunities, reach their full potential and maintain a work-life balance.

Deadline

Please send you CV and a brief cover letter to j.b.robinson@ucl.ac.uk by May 6th 2021