

## Exciting [Faraday Undergraduate Summer Experience \(FUSE\)](#) paid internship opportunities for summer 2026.

Studying a STEM degree? Wondering what career to pursue? Interested in finding out more about the battery sector? Keen to spend time with a dynamic community of pioneering battery researchers seeking to find solutions to support a fully electric future?

The Faraday Institution is offering a total of 48 internships, for undergraduate students to spend 8-weeks working on battery related projects.

**Project title:** Oxygenating Electrospun Lignin-Based Cathodes for Lithium-Sulfur Batteries.

### **Project description:**

Structural batteries that can store electrical energy and bear mechanical loads concurrently could enable the viable implementation of electric vehicles and aircraft, especially when coupled with the potential high energy density offered by Li-S chemistry. Structural batteries based on a traditional Li-ion system have been demonstrated, using commercial PAN-derived carbon fibres as structural electrodes. However, the reported energy density remains low, and as well as being non-renewable, PAN requires hazardous and expensive solvents during the fibre-spinning process, and produces toxic by-products such as HCN during carbonisation. Producing sustainable lightweight carbon fibres with high strength and stiffness, and excellent electrochemical properties, at low cost, would represent a significant step towards their wider implementation. In our group, we use lignin-derived electrospun carbon fibres as a 3D current collector to regulate Li-metal deposition at the anode, and as a cathode scaffold to support efficient sulfur conversion reactions. This project builds on our ongoing work in improving the electrochemical properties of the fibres. We will investigate the effects of carbonisation temperature and oxygenation of the cathodes (such as set-up geometry, temperature and gas flow rate) on the cycling performance. Through this project, the student will be able to gain hands-on experience in both electrospinning and battery cell assembly, as well as learn the basics of electrochemical analysis, optical microscopy and XPS, contributing to the research of sustainable lithium-sulfur battery cathode development.

**Supervisor:** Heather Au, I-Chuan (Ally) Hsia

**University:** Imperial College London

**Location:** In-person at the Department of Chemical Engineering, Imperial College London

**Start date:** The internship is a full-time role for 8 weeks during June-September. Start date is flexible, to be agreed with the project lead.

### **Eligibility:**

- Be registered full-time undergraduate student from a UK university.
- Undertake the internship within the years of their undergraduate study (i.e., not in final year or during a subsequent Masters' programme).
- Not have been a FUSE intern in a previous year.

### **Funding:**



A salary of **£14.80**/hour will be provided. The funding is provided by the [Faraday Institution](#).

**Additional activities:**

During the FUSE internship you will be able to attend Faraday Institution 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 share a poster and give a 5-minute presentation about your work to the lab group. Additional tasks might include writing a blog, creating a short video, writing a short newsletter item / article about a topic or the internship experience.

**Application:**

In order to apply for a Faraday Undergraduate Summer Experience (FUSE) 2026 internship, please send your CV to Ally Hsia (ah822@imperial.ac.uk) with 'FUSE – LiSTAR' as the subject and fill in the survey found here: <https://forms.gle/HTjVw3dJxsKPBNYL9>. The deadline for applications is 25<sup>th</sup> April 2026. Please also complete the short Faraday Institution survey that would allow the organisation to keep you updated about relevant webinars this summer and future careers opportunities in the battery sector: [Expression of Interest in the Faraday Undergraduate Summer Experiences \(FUSE\) 2026 Survey](#).

**Diversity**

The Faraday Institution is committed to creating a dynamic and diverse pool of talent for the fields of battery technology and energy storage.

You can read more about Imperial's commitment to Equality, Diversity and Inclusion here: <https://www.imperial.ac.uk/equality/>