

Exciting [Faraday Undergraduate Summer Experience \(FUSE\)](#) paid internship opportunities for summer 2025.

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 working on battery related projects.

The Advanced Propulsion Lab at UCL based in UCL's new Marshgate building will host three FUSE internships this year with this project being related to the SAFE BATT programme.

Project title: Exploring the Application of Acoustic Techniques to Improve Battery Formation, Degradation and Safety

Project description:

Ensuring battery safety is one of the most important factors in developing systems for electric vehicles and other applications in the green transition. To ensure reliable operation, diagnostic techniques are deployed to track behaviour and provide a fingerprint of a system's current state of health. These techniques often include thermal and electrochemical characterisation; however, in recent years, acoustic tools have been increasingly utilised.

Acoustic spectroscopy enables scientists to actively probe and listen to the processes occurring within a battery during operation, helping to identify abnormal behaviour that may signal early degradation. The FUSE intern, supported by researchers at UCL, will contribute to ongoing research aimed at developing a comprehensive understanding of the 'sound of batteries.' By tracking the characteristic acoustic response of a battery and correlating it with key electrochemical markers, the intern will help advance the 'Science of Safety.' This work will enhance fundamental knowledge of battery behaviour and support efforts to prevent battery failure.

During this project:

- You will be working with a leading research group to develop tools to allow for safer operation of battery systems
- You will gain exposure to the methods used across the SAFE BATT research programme to develop the Science of Safety and improve current systems
- You will become familiar with the electrochemical and acoustic behaviour of lithium-ion batteries across pouch and cylindrical formats.
- You will design experiments related to battery formation, degradation and safety.
- You will develop your analytical skills to relate different processes to the performance of batteries.
- You will develop your Python coding and machine learning skills to improve data analysis and processing.

Supervisor: Arthur Fordham, Yuanze Li and James Robinson

University: University College London

Location: In-person at the Advanced Propulsion Lab, Marshgate, London E20 2AE

Start date: The internship is a full-time (36.5 hours per week) role for 7 weeks during June – September 2025. 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 £12.60/ hour across the UK or £13.85 / hour in London will be provided. This will be determined by the working address of the appointee, not the university's location. The funding is provided by the [Faraday Institution](#).

You will be paid via the UCL recruitment agency [UniTemps](#).

Additional activities:

During the FUSE internship you will be expected 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 about your work and prizes will be awarded.

Application:

In order to apply for a Faraday Undergraduate Summer Experience (FUSE) 2025 internship, you need to send your CV to James Robinson (j.b.robinson@ucl.ac.uk) with 'FUSE – SAFEBATT' as the subject and fill in the survey which can be found here: <https://forms.office.com/e/mZ4kfWtMhz>. The deadline for applications is April 25th, 2025.

Diversity:

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

As London's Global University, we know diversity fosters creativity and innovation, and we want our community to represent the diversity of the world's talent. We are committed to equality of opportunity, to being fair and inclusive, and to being a place where we all belong. We therefore particularly encourage applications from candidates who are likely to be underrepresented in UCL's workforce.

You can read more about our commitment to Equality, Diversity and Inclusion here : <https://www.ucl.ac.uk/equality-diversity-inclusion/>