**Exciting** [**Faraday Undergraduate Summer Experience (FUSE)**](https://www.faraday.ac.uk/fuse-2022/) **paid internship opportunities for summer 2022.**

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 56 internships, for undergraduate students to spend 8 weeks working on battery related projects.

**Project title:** Rest Easy: Efficient Extraction of a Battery Open Circuit Voltage

**Project description:**

The open circuit voltage (OCV) of a lithium-ion battery is an essential requirement for any battery model. The problem is determining the ‘true’ OCV:

* Is the battery in thermal equilibrium?
* Has the battery been at rest for sufficient period of time?
* What is the battery’s current state-of-charge?

Extracting the OCV from experimental data can be a long and laborious process. Reducing the experimental time and streamlining the data processing will be of significant benefit to the battery industry.

You will lead preliminary investigations into novel methods to extract the OCV. The work will be a mixture of experimental (to gather good data from the test battery) and analytical, where you will process the raw data to output the information we urgently require.

Outcomes are open-ended. Findings could be collated to present at a conference, or developed data processing methods could be built into software. It is up to you!

Learning Objectives:

* Familiarisation of battery testing equipment
* Experience with hands-on battery testing
* Experience with processing of battery test data
* Development of data analytic techniques using Python/ Matlab
* Gain experience working with a dynamic team spread across University of Bristol, University of Birmingham and Imperial College London

**Supervisor:** Alastair Hales

**University:** University of Bristol

**Location:** In-person

**Start date:** The internship is a full-time role for 8 weeks, flexible across the period of June – August 2022

**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 £9.50 / hour for the duration of the project. The funding is provided by the [Faraday Institution](https://www.faraday.ac.uk/).

**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, you need to complete [this application](https://forms.office.com/Pages/ResponsePage.aspx?id=MH_ksn3NTkql2rGM8aQVGz3NM8EtY0BCg6PnqmSzWQJUQVdMVkRJMkVRWEM3RkEwNVRIVE83V1U3Ri4u&wdLOR=c45A65369-3E8B-4401-A677-8C500E32095A) before 5pm on Tuesday 19/4/2022. The application form is the same for both internships under the supervision of Alastair Hales. There is a question where you can indicate your preference of internship (if any).

**Diversity**

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

A commitment to equality, diversity and inclusion is fundamental to the University of Bristol’s core values, ensuring our success as a high-performing global civic institution with a positive and supportive culture, where all staff and students feel empowered and respected.