**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:** Application of a miniaturized fluxgate magnetometer to investigate battery charge/discharge cycles

**Project description:**

Fluxgate magnetometers are used in a number of industrial and R@D applications. For example, a network of these devices exists to record/map changes in the Earth’s magnetic field over time, <http://www.geomag.bgs.ac.uk/data_service/space_weather/current_conditions.html>

In this project, a fluxgate magnetometer constructed at the University of Strathclyde will be used to investigate changes in magnetic field associated with a battery charge/discharge cycle. The purpose is to determine the typical amplitude, frequency and spatial location of changes in the magnetic field. Results will be interpreted in terms of expected behavior within the battery.

Learning outcomes include:

* Understanding the Physics behind a fluxgate magnetometer
* Understanding the range of applications of a fluxgate magnetometer
* Understanding of expected changes in magnetic field during battery charge/discharge cycles, potential failure modes etc
* Taking part in an experiment to measure the charge/discharge cycle in a battery using a fluxgate magnetometer constructed at the University of Strathclyde.
* Interpreting results and quantifying the potential for fluxgate magnetometry in Electric Vehicle battery management

**Supervisor:** Dr Terry Dyer

**University:** University of Strathclyde

**Location:** In-person

**Start date:** The internship is a full-time role for 8 weeks [flexible start/finish dates during June – September 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 £9.90 / 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 university's location. 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 apply with CV and covering letter to terry.dyer@strath.ac.uk.

**Diversity**

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

The University of Strathclyde is committed to achieving and promoting equality of opportunity in its learning, teaching, research and working environments, and to ensuring these environments support positive relations between people, and a culture of respect.