**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:** Improving the electrolyte in low-cost lithium polysulfide flow batteries

**Project description:**

Lithium polysulfide flow batteries (LPFB) are promising next generation batteries to replace lithium-ion and vanadium redox flow batteries for large-scale energy storage due to their inherent lower cost, high theoretical energy density, excellent scalability and much improved safety. As opposed to conventional Li-S chemistry, the LPFB employs polysulfides as dissolved species in the cathode side electrolyte (termed catholyte), while maintaining a metallic lithium anode.

Two particular challenges arise with this chemistry configuration that limits shelf life and power delivery: self-discharge from transport of abundant polysulfide from the catholyte to the anode; and a poor trade-off between solvents that dissolve polysulfides well vs solvents that are chemically compatible with the lithium metal anode. The summer internship will investigate novel catholyte mixtures by employing novel additives or solvent mixtures to protect the lithium anode from self-discharge, while maintaining excellent polysulfide solubility and battery capacity.

**Supervisor:** Dr Edward Brightman

**University:** University of Strathclyde

**Location:** *In-person*

**Start date:** The internship is a full-time role for 8 weeks. Dates are flexible between 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:**

To apply for this Faraday Undergraduate Summer Experience (FUSE) 2022 internship, please submit your details in the online form at the link below. You will need to provide your name, degree course, year, a summary of your grades, and a short statement outlining your motivation and suitability for this internship. Applications must be submitted by 31 March 2022 and short-listed candidates will be invited to an informal interview shortly after that. [*https://forms.office.com/r/Pi6sGH3D3M*](https://forms.office.com/r/Pi6sGH3D3M)

**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 values diversity and welcomes applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

## University Values

The University’s Values capture what we’re all about: who we are, what we believe in and what we stand for. [Our Values](https://www.strath.ac.uk/whystrathclyde/values/) have been derived from how we act and how we expect to be treated as part of Strathclyde.