

**Exciting** [Faraday Undergraduate Summer Experience (FUSE)](https://www.faraday.ac.uk/fuse-internships-2023/) **paid internship opportunities for summer 2023.**

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

**Project title:** Towards carbon fibres based Li-S batteries

**Project description:** For increasing the energy density, lithium metal is considered the “holy grail” anode material, but the commercialisation of the lithium metal anode is hindered by several issues including safety concerns and fast capacity fade. To address these concerns, we use free-standing, electro-spun, and lignin-derived carbon fibre current collectors to control lithium deposition and minimise lithium inventory loss. The ideal carbon fibre material has optimal surface area, lithiophilicity, high conductivity and enables the formation of a thin and stable solid-electrolyte interface layer with good lithium-ion conductivity. In this project, we will investigate different strategies to improve current collector performance including high temperature carbonisation, and nitrogen doping. Lab work will involve assembling coin cells for electrochemical testing and characterising the structure of newly synthesised host structure materials.

**Supervisor:** Professor Magda Titirici and Samantha Southern

**University:** Imperial College London

**Location:** In-person, South Kensington campus

**Start date:** The internship is a full-time role for 8 weeks during June - September 2022. Start date is flexible.

**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 £10.90/ hour across the UK or £11.95 / 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 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 to share a poster about your work and prizes will be awarded.

**Application:**

In order to apply for a Faraday Undergraduate Summer Experience (FUSE) 2023 internship, you need to fill out this survey by 14th April - <https://forms.gle/XduZCLLiuNkDZr2B7>. Any questions regarding the application should be sent [s.southern21@imperial.ac.uk](mailto:s.southern21@imperial.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.

Imperial’s reputations an International centre of research and teaching excellence has been built upon the achievements of diverse staff working over many decades. Our new college values (Respect, Collaboration, Integrity, Innovation and Excellence) emphasise the importance of culture and diversity, and shape how we work with one another.