

**Exciting [Faraday Undergraduate Summer Experience \(FUSE\)](#) 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:** Studying the dissolution properties of the solid electrolyte interphase in sodium-ion batteries using scanning electrochemical microscopy.

**Project description:** Sodium ion batteries (NIBs) have attracted attention recently as an alternative to lithium-ion batteries (LIBs). Sodium is significantly more abundant and well distributed in the Earth's crust compared to lithium and therefore NIBs offer advantages in sustainability and cost. A challenge for NIBs is our limited understanding of the solid electrolyte interphase (SEI). This is a layer that forms on the surface of the anode during electrochemical cycling, its stability plays a crucial role in determining the long-term performance of a cell. It is known that the SEI in NIBs is less stable than seen in LIBs. Therefore, this project will focus on studying the SEI in NIBs using scanning electrochemical microscopy (SECM). This technique allows visualization of the electronic conductivity at the surface of electrodes before and after electrochemical cycling. This will give an insight into the formation and long-term stability of the SEI in NIBs.

**Supervisor:** Nuria Tapia-Ruiz/ Jack Fitzpatrick

**University:** Imperial College London

**Location:** In person - Molecular Sciences Research Hub, White City Campus

**Start date:** The internship is a full-time role for 8 weeks [03/07/2023 - 25/08/2023]

**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](#).

**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 email your CV and one page covering letter to [laura.parker@imperial.ac.uk](mailto:laura.parker@imperial.ac.uk) by Tuesday 4<sup>th</sup> April (EOD).

**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 College is committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment. We are an Athena SWAN Silver award winner, a Stonewall Diversity Champion, a Disability Confident Employer and work in partnership with GIREs to promote respect for trans people.