



**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:** Cu and Al current collector corrosion in state-of-the-art Li-ion battery coin cells

**Project description:**

Often overlooked, degradation of the metallic copper and aluminum current collectors can significantly undermine the performance of the Li-ion batteries. Corrosion of these components can increase the ‘dead-weight’ of the cell, lead to the capacity loss, and in worst-case scenarios result in short circuiting of the battery1. NMC811 cathode materials that are used in novel batteries have high theoretical capacity, leading to greater amount of charge being passed through the current collectors per cycle. The effect of the increased capacity in these batteries on corrosion of the current collectors has not been extensively studied.

This project will focus on studying the interface between the metallic current collectors and battery electrodes using advanced materials characterisation techniques. The corrosion of the current collectors *versus* charging rates will be elucidated.

1 Liya Guo et al 2021 J. Phys. Energy **3** 032015

**Supervisor:** Dr Aigerim Omirkhan/Prof Mary Ryan

**University:** Imperial College London, Department of Materials

**Location:** *South Kensington Campus, in-person*

**Start date:** The internship is a full-time role for 8 weeks with flexible dates within 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 a Faraday Undergraduate Summer Experience (FUSE) 2022 internship, please fill out this [survey](https://imperial.eu.qualtrics.com/jfe/form/SV_bpBdq775zYBbP6K) by the end of **22nd of April 2022**.

**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 London is committed to equality of opportunity, to eliminating discrimination and to creating an inclusive working environment for all.

We therefore encourage candidates to apply irrespective of age, disability, marriage or civil partnership status, pregnancy or maternity, race, religion and belief, gender identity, sex, or sexual orientation.