

**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:** Mapping Lithium Conductivity in Solid State Electrolytes.

**Project description:**

The ability to accurately measure lithium ion diffusion is of great importance to the field of solid-state ionics particularly in battery research where the ionic conductivity of the electrolyte is one of the factors in how fast a battery can charge. Currently to fully charge commercial electric vehicles takes ~6 hours yet using a solid-state battery these times can be reduced to less than 30 minutes. However, for this to become reality new solid-state electrolytes are needed with faster lithium-ion motion. One of the bottlenecks to this is the lack of understanding of lithium diffusion processes in these electrolytes.

The purpose of this project is to test the ability of diffusion-weighted magnetic resonance imaging methods to map lithium diffusion coefficients in solid-state electrolytes, allowing for a new understanding of the macroscopic lithium transport pathways in these materials.

**Supervisor:** Dr Gregory Rees

**University:** University of Oxford

**Location:** In-person

**Start date:** The internship is a full-time role for 8 weeks : Flexible start date between June-September 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 £11.92/ hour will be provided. 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 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 send a (i) CV and (ii) short personal statement (in Microsoft Word or PDF format, 300 words max.) to Dr Gregory Rees ([gregory.rees@materials.ox.ac.uk](mailto:gregory.rees@materials.ox.ac.uk)) before 18:00 on 28<sup>th</sup> April 2023.

## **Diversity**

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

[University of Oxford's Equality Policy](#)