

Exciting [Faraday Undergraduate Summer Experience \(FUSE\)](#) paid internship opportunities for summer 2024.

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: Heat generation mapping of a range of cells

Project description: Heat generation in Lithium-ion batteries is affected by their design and composition, and the effect of this on their heat generation has been poorly studied. This project will be predominantly experimental and involve testing a custom-made set of pouch cells to map their heat generation using heat-flux sensors. All cells will be identical to each other except for one change (either different anode, cathode, electrolyte or different number or layers) – which allows for easy interpretation of the results. The results are expected to be useful to improve the heat generation component of physics-based models. In this project, you will have access to a battery testing laboratory and manufacturing facilities. Your task will be to put together a suitable experimental setup to measure heat flux through the surface of the cell – which will involve manufacturing some parts; conduct the experiments following a pre-designed test plan using a battery cycler; and finally analyse and present the data to your supervisors and to the research group.

Desired skills and experience:

- Have an interest in lithium-ion batteries and how they work
- Be confident in mechanical design for manufacture
- Be comfortable working in a laboratory environment
- Have experience using Python/Matlab for data analysis

Supervisor: [Dr Carlos Garcia](#) and [Dr Sabine Paarman](#)

University: Imperial College London

Location: in-person, South Kensington campus, London

Start date: Flexible - the internship is a full-time role for 8 weeks

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: Up to a salary of £12.00/ hour across the UK or up to £13.15 / 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](#) and subject to the host institution rates.

Additional activities: During the FUSE internship you will be able and expected 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.

Diversity: The Faraday Institution is committed to creating a dynamic and diverse pool of talent for the fields of battery technology and energy storage. Tackling the global challenges of the future, such as climate change, will require a truly diverse, creative approach. For Imperial to be at the forefront of this effort, we will need to draw upon the talents of staff and students who come here from all backgrounds and from all over the world.

Application:

Applications to this project must be submitted online. Late applications may be considered if the position has not been filled by the deadline.

Deadline: Friday 26 April 2024.

APPLY HERE: <https://forms.office.com/e/D7KjZ2Gpq4>



The outcome will be communicated by 10 May 2024 to the email address entered in the application.