



School of Computing, Engineering, and the Built Environment Edinburgh Napier University

PHD STUDENT PROJECT

Application instructions:

Detailed instructions are available at :

<https://www.napier.ac.uk/research-and-innovation/doctoral-college/how-to-apply>

Prospective candidates are encouraged to contact the Director of Studies (see details below) to discuss the project and their suitability for it.

Project details

Supervisory Team:

- DIRECTOR OF STUDY: Dr Fadi Kahwash (Email: F.Kahwash@napier.ac.uk)
- 2ND SUPERVISOR: DR Libu Manjakkal

Subject Group: Engineering & Mathematics

Research Areas: Energy Technologies

Project Title: Novel Design for Sodium Battery - Modelling and Experimental Validation

Project description:

Improving the sustainability of energy storage materials is becoming an increasingly important aspect in recent years. Sodium-ion batteries are a promising alternative to Lithium, that could reduce the reliance on rare earth elements. This project aims at numerical and experimental investigation of a novel sodium battery design. Simulations and experimental validation will be carried out to validate new functionality of the battery.

Candidate characteristics

Education:

A second class honour degree or equivalent qualification in Numerical Analysis
– CFD, or Material Science

Subject knowledge:

- Heat Transfer
- Numerical analysis
- Material characterisation

Essential attributes:

- Experience in CFD analysis

Desirable attributes:

- CFD with chemical reactions
- Multi-physics simulations
- Material characterisation