

CAM-IES Centre for Advanced Materials for Integrated Energy Systems in conjunction with **Superstore Energy Storage Research Hub**: CALL FOR PROPOSALS for short projects on

REDOX FLOW BATTERIES

Opening of the call: 9 am, Monday 7 August 2017

Proposals due: 9 am, Friday 13 October 2017

The EPSRC Centres [CAM-IES](#) and [SuperStore Energy Research Hub](#) are seeking proposals from UK academic and postdoctoral research staff for short projects that broaden the EPSRC Centre's research portfolio and the number and breadth of its collaborative projects. CAM-IES will issue a series of calls involving the different technologies investigated as part of the Centre, and involving integration between the technologies.

The first call focuses on redox flow batteries and follows on from a CAM-IES sponsored workshop organised by the [UK Redox Flow Battery Network \(UK RFBN\)](#). A goal of this call is to increase collaboration within the UK in this area, and to help kick-start new initiatives and research directions.

Illustrative examples of research projects include, but are not limited to:

New redox active polymers

Multi electron active molecules for redox flow

Spectroscopic methods for studying redox flow cells

New electrode designs

We aim to fund **three projects** of up to **£100 000** (@ 80 % FEC) each **for a year's duration** starting **early 2017** (pending negotiation of contracts). Proposals from early career researchers are particularly encouraged. For more information about this call, email Dr. Lata Sahonta, Programme Manager for CAM-IES, sls55@cam.ac.uk

Information for Applicants

Who can apply?

- Investigators must be academic employees of a UK university or research institute and must be resident in the UK.
- Early career researchers (*i.e.* those defined by EPSRC as “those eligible for EPSRC funding who have been employed for five years or fewer, at more than 0.2 FTE, in a UK Higher education institution and who have carried out research or research and teaching on a continuous basis”) are strongly encouraged to apply. This definition does not include postdoctoral research staff, **however, postdoctoral researchers are welcome to submit an application form in conjunction with an academic principal investigator.**
- Applicants must be based at a UK university or associated research institution.
- CAM-IES and SuperStore members are eligible to apply.
- Industrial participation in projects through direct funding or in-kind contributions of staff time, facilities access, provision of materials *etc.* is encouraged but not essential. No grant funding can be provided to industry participants.

What funding is available?

- Up to £100 000 of funding is available at 80 % Research Council rate for each project.
- Three projects will be funded.
- The project should be completed within one year of award.
- Projects selected for funding will form part of the CAM-IES and SuperStore project portfolio. The investigators, researchers and project will be listed on the CAM-IES and SuperStore web sites. To ensure the maximum value and impact from each project awarded, CAM-IES and SuperStore will assign a co-investigator to support in management of the project, and with dissemination and knowledge transfer.
- CAM-IES and SuperStore will enter into a specific collaboration agreement including mutually agreed IP arrangements for each project.

What topic is allowed?

Any topic within the field of redox flow will be considered.

How are proposals assessed?

- Proposals should form a stand-alone project in their own right, and should neither be part of another larger project, nor dependent on other funding which has not yet been secured.
- Proposals that are within the scope of the call (as determined by CAM-IES and SuperStore) will be assessed by a panel of independent members with representation from both academia and industry.
- Successful proposals will be announced in December 2017.

How do I apply?

- Proposals should be submitted using the [application form](#) on the [CAM-IES web site](#). The completed form should be no longer than six pages in length.
- All application forms should be submitted to Dr. Lata Sahonta (sls55@cam.ac.uk) by **9 am on Friday 13 October 2017**. Letters of support from industrial project partners should be attached and do not count towards the page limit.

About CAM-IES

CAM-IES (the Centre for Advanced Materials for Integrated Energy Systems) is an EPSRC Centre, consisting of four partner universities, established to create a UK-wide network of UK academics working in advanced materials. We are not restricted to one single energy technology. The aims of CAM-IES are:

- To create a UK-based community of researchers focused on materials for integrated energy systems.
- To facilitate access to experimental facilities for interested users, in particular the unique tools for energy materials characterization and deposition that are currently being set up in Cambridge as part of the [Henry Royce Institute](#).
- To develop advanced materials for energy storage, specifically:

- (i) solid-state batteries
- (ii) coatings for high voltage electrode battery materials and flow batteries
- (iii) solid-oxide fuel cells and CO₂ gas separation membranes
- (iv) hybrid thin film photovoltaics
- (v) large-area thermoelectrics

- To help to identify new research directions and promote technology transfer to and collaboration with industry.
- To *pump-prime* new research collaborations and facilitate larger scale collaborative projects leading to significant new funding involving the EPSRC Centre.

We are also interested in how these different technologies can be integrated and how learning from researchers from one technology can impact other technologies. For example, are characterisation methods developed to examine interfacial structures in batteries relevant to characterising interfaces in thermoelectrics and vice versa?

About SuperStore

The Energy Storage Research Hub aims to play a role in decarbonising the electricity, heating and transport sectors, focusing on grid-scale storage, medium-scale onboard storage in transport sector, and portable storage for consumer electronics. SuperStore is formed of nine areas of research which address cross-cutting issues in energy storage:

- (i) Redox Flow Batteries
- (ii) Li- & Na-ion batteries
- (iii) Lithium-air Batteries
- (iv) Supercapacitors
- (v) Thermal Energy Storage
- (vi) Compressed Air Energy Storage
- (vii) Whole System Modelling and Economic Analysis
- (viii) System integration
- (ix) Manufacturing and scale-up

The Hub informs the agenda for UK energy storage activities, through development of a UK roadmap and a vision for energy storage research in the UK, stretching into the future while embracing energy policy. Core research undertaken within the Hub and through the award of flexible funding will advance key areas of science and engineering within the UK academic community. SuperStore brings together highly experienced investigators in energy storage research, not only in the technologies themselves, but spanning the entire value chain, from manufacturing, integration and evaluation of the whole energy system, including economics and policy.