

THE POST

College:	College of Engineering, Mathematics and Physical Sciences
Post:	Research Fellow (Hydrogen Production Cell Design for Energy Storage)
Reference No:	P62632
Grade:	F
HERA:	ARF
Reporting To:	Dr Xiaohong Li

The post is available from 16 July 2018 to 15 July 2020 and is part of a project involving the University of Exeter and EU Interreg 2 Seas, is funded through the European Regional Development Fund.

Located at the Penryn Campus in Cornwall. If you would like to know more about the young, energetic, and beautiful campus, please have a google search of Penryn Campus.

Job Description

Main purpose of the job:

The project will investigate electrocatalysts for use in a novel water electrolyser for hydrogen production. The research work is part of the European Interreg 2 Seas project entitled "[Electrons to high value Chemical products](#)" which is a R&D collaboration between eight partners across Europe.

The project aims to develop electrocatalysts employing non-precious metals or metal oxides for anion exchange membrane (AEM) water electrolyser for hydrogen production in high efficiency and cost-effectiveness. The research work will be focused on ways (i) to prepare and characterise new catalysts for both oxygen evolution reaction and hydrogen evolution reaction; (ii) to optimise composition of the selected catalysts, to fabricate nanostructured catalysts; (iii) to investigate the catalyst deposition method on the membrane; (iv) to design and construct an AEM water electrolyser cell with a desired performance.

Main duties and accountabilities:

1. To undertake research as appropriate to the field of study including:
 - Acting as principal investigator on research projects;
 - Developing research objectives, projects and proposals;
 - Conducting individual or collaborative research projects;
 - Identifying sources of funding and contributing to the process of securing funds;
 - Extending, transforming and applying knowledge acquired from scholarship to research and appropriate external activities;
 - Writing or contributing to publications or disseminating research findings using media appropriate to the discipline;
 - Making presentations at conferences or exhibiting work in other appropriate events;
 - Assessing, interpreting and evaluating outcomes of research;
 - Developing new concepts and ideas to extend intellectual understanding;
 - Resolving problems of meeting research objectives and deadlines;
 - Developing ideas for generating income and promoting research area;
 - Developing ideas for application of research outcomes;

- Deciding on research programmes and methodologies, often in collaboration with colleagues and sometimes subject to the approval of the head of the research programme on fundamental issues.
2. To contribute to teaching and learning programmes in the School and to supervise postgraduate research students.
 3. To act as research team leader including:
 - Mentoring colleagues with less experience and advising on their professional development;
 - Coaching and supporting colleagues in developing their research techniques;
 - Supervising the work of others, for example in research teams or projects;
 - Developing productive working relationships with other members of staff;
 - Co-ordinating the work of colleagues to ensure equitable access to resources and facilities;
 - Dealing with standard problems and help colleagues to resolve their concerns about progress in research.
 4. To routinely communicate complex and conceptual ideas to those with limited knowledge as well as to peers using high level skills and a range of media and to present the results of scientific research to sponsors and at conferences.
 5. To plan, co-ordinate and implement research programmes including:
 - Managing the use of research resources and ensure that effective use is made of them;
 - Managing research budgets;
 - Helping to plan and implement commercial and consultancy activities;
 - Planning and managing own consultancy assignments.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Fellow role profiles.

Terms & Conditions

Our Terms and Conditions of Employment can be viewed [here](#).

Further Information

Please see our [website](#) for further information on working at the University of Exeter.

Person Specification

Competency	Essential	Desirable
Attainments/Qualifications	PhD or equivalent qualification/experience in Electrochemistry, Material Chemistry, Chemical Engineering, or Energy Engineering.	Be a nationally recognised authority in the subject area.
Skills and Understanding	<p>Possess sufficient specialist knowledge of electrochemical engineering, electrochemical techniques and material sciences.</p> <p>Able to conduct high quality experiments and analyse and interpretate the data to a level compatible with peer-reviewed scientific journals relevant to electrochemistry and power sources.</p>	Record of research output in nationally recognised publications.
Prior Experience	<p>Specific experience in the following areas:</p> <ul style="list-style-type: none"> – Electrochemical cell operation – Water electrolyser and fuel cells – Materials synthesis and characterisation – Nanoscale materials and nanotechnology 	<p>Experience of teaching at undergraduate level.</p> <p>Experience of managing research projects and research teams.</p> <p>Successful in obtaining grant funding.</p> <p>Experience of postgraduate teaching and supervision.</p> <p>Experience of acting as principal investigator on research projects.</p>
Behavioural Characteristics	<p>Excellent written and verbal communication skills.</p> <p>Able to communicate complex and conceptual ideas to a range of groups.</p> <p>Evidence of the ability to collaborate actively within the Institution and externally to complete research projects and advance thinking.</p> <p>Able to participate in and develop external networks.</p> <p>Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.</p> <p>Able to balance the pressures of research, administrative demands and competing deadlines.</p>	
Additional Competencies/Experience	Act as a project coordinator to monitor day to day research activities, to present research work at project meetings/conferences, and to write project reports and journal articles.	Click here to enter text.