

## Post Description

Post	Research Fellow	Position no:	15658
College / Directorate / Institute	College of Engineering, Design and Physical Sciences Department of Electronic and Electrical Engineering		
Salary	Grade R1		
Contract type	Fixed Term Contract until 31 March 2025		
Full time/Part time	Full time		
Accountable to	Ioana Pisica, Co-Investigator and Rader (Dept Electronic and Computer Engineering).		
Reports	N/A		
Internal stakeholders	Prof Hua Zhao, Dr Xinyan Wang (Principal Investigator)		
External stakeholders	Project consortium members (public and private sector)		
Date reviewed	April 2024		

### Purpose of the post:

The post is funded by an InnovateUK award. The purpose of the post is to design and develop a customised onboard energy management system to manage the operation of power loads to inform decisions. It will account for operational requirements, using performance indicators and energy efficiency as metrics to provide set points for generation and power system asset utilization. This involves collaboration with academics and industry experts. The researcher will be expected to collaborate effectively with the consortium members to deliver the agreed project outcomes.

### Key duties and responsibilities:

1. Conduct research in support of the academic programme of work.
2. Liase with the companies and other organisations in the grant consortium in a professional manner.
3. Develop a validated engineering model of the onboard energy components, develop the optimisation and control algorithms.
4. Be responsible for accurate and efficient data management, collation and reporting of results.
5. Contribute to the of writing reports and deliverables as required for the duration of the programme.
6. Disseminate outcomes and results of the project (international journals and conference publications etc).
7. Perform other additional research and scholarly duties in line with University guidelines.

### Management of Staff and Students (Responsibilities and Accountability):

None.

### Effective Behaviours:

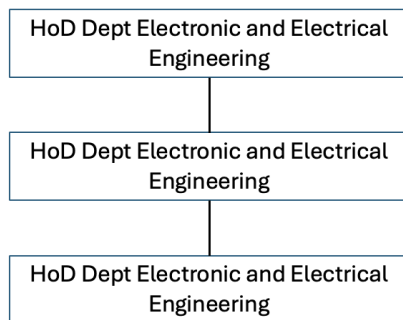
- Timeliness
- Meeting deadlines
- Communication and networking
- Ability to plan and organise own workload
- Ability to adapt to a flexible approach to the demands of a demanding project to accommodate changes in priorities when required.

### University Employment Policy:

1. Undertake any other reasonable duties as required and commensurate with the grade of post.
2. Adhere to and comply with the provisions of the Data Protection Act and the Health and Safety at Work Act in accordance with University policies.
3. Undertake all duties and responsibilities in compliance with the rules and regulations encompassing equal opportunities to help foster a diverse workforce.
4. Adhere, comply and work in accordance with University and Departmental policies, procedures and codes of conduct.
5. Promote the University's Environmental Policy and demonstrate commitment to it through actions and decision making.
6. Actively participate in on-going professional development activities as requested

### Organisational Chart

The organisational chart comprises of the role, the manager of the role and any direct reports to the role.



Disabled applicants meeting the Essential criterion will be guaranteed an interview as part of the University's commitment to the Disability Confident Scheme.



## Person Specification

Attributes	Criteria	Essential /Desirable	How measured
Education, qualifications & training	Hold a PhD in a relevant subject in engineering (e.g. electrical, mechanical, chemical, energy) <b>OR</b> Attained equivalent research, industrial or commercial experience. (Minimum 4 years).	E	Application form
Experience	Details of previous employment/research and/or academic achievements applicable to the post over the past 2 years.	E	Application form, Interview
	Working in a team.	D	Application form, Interview
Knowledge Skills & Abilities	Proficiency in modeling and simulation software tools such as MATLAB/Simulink, or similar for electric system analysi.	E	Application form, Interview
	Familiarity with onboard power generation technologies, energy storage systems, and power electronics for marine applications, including hydrogen and ammonia propulsion systems	E	Application form, Interview
	Knowledge of optimisation techniques	E	Application form, Interview
	Demonstrate ability in acquiring and interpreting research data and results.	E	Application form, Interview
	Ability to conduct a detailed review of recent literature.	E	Application form, Interview
	Ability to compile reports and give / participate in academic presentations.	D	Application form, Interview
	Ability to draft reports.	D	Application form, Interview
	Ability to draft research papers for publication in academic journals.	D	Application form, Interview
	Knowledge of project management	D	Interview
Additional Requirements (not included above)	Willingness to learn concepts outside of your current knowledge base.	E	Interview

## Job Hazard Assessment

Any identified hazards have undergone appropriate Risk Assessments.

Please tick all relevant workplace hazards identified with this post.				
Currently the University, as a minimum runs Health Surveillance programmes for staff working with skin and respiratory sensitisers, Biological Agents Class 2 and above and GMOs.				
Display screen equipment <input checked="" type="checkbox"/>	Manual handling <input type="checkbox"/>	Prolonged standing e.g. 1 hour plus <input type="checkbox"/>	Prolonged sitting e.g. 1 hour plus <input type="checkbox"/>	
Biological agents: Class 2 and above and GMO Class 1 <input type="checkbox"/>	Human blood, tissue or fluids <input type="checkbox"/>	Respiratory sensitisers or laboratory allergens e.g. animals <input type="checkbox"/>	Skin Irritants/Chemicals <input type="checkbox"/>	
Work in confined Places <input type="checkbox"/>	Ionising radiation <input type="checkbox"/>	Noise (more than 80 dba-8 hrs. taw) <input type="checkbox"/>	Lone working <input type="checkbox"/>	
Use of dangerous machinery <input type="checkbox"/>	Electrical hazards <input type="checkbox"/>	Shift work/night work <input type="checkbox"/>	Work outdoors <input type="checkbox"/>	
Neck & arm vibrating equipment <input type="checkbox"/>	Fork lift truck driving <input type="checkbox"/>	Work at heights <input type="checkbox"/>	Lasers <input type="checkbox"/>	
Any other hazards (e.g. food handling) please specify and ensure that appropriate guidance has been received from the Health & Safety office:				
Physical demands of the job	Lifting <input type="checkbox"/>	Carrying <input type="checkbox"/>	Bending <input type="checkbox"/>	Pushing <input type="checkbox"/>
If lifting/carrying duties expected, please give details of heights/weight load(s) the individual is expected to lift/carry and frequency:				
Travel/Off-site working:	% of time	UK <input type="checkbox"/>	Overseas <input type="checkbox"/>	
Driving for work:	None <input checked="" type="checkbox"/>	Occasionally <input type="checkbox"/>	Weekly <input type="checkbox"/>	Daily <input type="checkbox"/>
Management responsibility:	Supervisor <input type="checkbox"/>		Non-supervisory <input checked="" type="checkbox"/>	
Hours of work:	Full time <input checked="" type="checkbox"/>		Part time <input type="checkbox"/> hours	
Non-standard contractual hours? (evenings/weekends) Night work Frequency, number of hours, type of work outside standard hours:				
Other – including occasional or possible work hazards (please specify nature and frequency):				