

Systems Engineer (Hydrogen)

Department	Power Networks Demonstration Centre (PNDC) (http://www.strath.ac.uk/pndc/), Department of Electrical and Electronic Engineering (http://www.strath.ac.uk/eee/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Exchange	Reference No	339634
Reports To	PNDC Programme Delivery Manager	Grade:	8
Salary Range:	£40792 - £50132	Contract Type:	Fixed Term (24 months)
FTE:	1 (35 hours/week)	Closing Date	21 March 2021

Job Advert

The Power Networks Demonstration Centre (PNDC), part of the University of Strathclyde (Times Higher Education Awards University of the Year 2019 and Scottish University of the Year 2020), wishes to appoint a Systems Engineer (Hydrogen) to our team to lead project activities in this growing area. By bringing our expertise to project teams and key stakeholders, we aim to accelerate innovation and de-risk effective deployment and integration of new hydrogen-based systems and drive them towards business-as-usual within the net-zero energy system of the future.

The PNDC is one of the Commercialisation Centres for the recently-announced Hydrogen Accelerator (<https://h2-accelerator.wp.st-andrews.ac.uk/>). The Hydrogen Accelerator is the Scottish initiative for developing and supporting world-leading hydrogen projects, placing Scotland at the forefront of innovative decarbonising solutions, in particular, relating to hydrogen and hydrogen-based technologies in transport. Funded by Transport Scotland and the Scottish Government, the initiative will support the development and scale-up of hydrogen projects in Scotland.



The PNDC offers a dynamic and varied environment, providing the opportunity to be involved in leading edge work within the energy sector. As part of the University of Strathclyde, the PNDC can offer a wide range of benefits to the post holder, including a generous holiday entitlement, pension scheme, and discounts to the state-of-the-art Strathclyde Sport gym and leisure facilities. The University also currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

The successful candidate will work as part of a growing dynamic team to develop and deliver a wide range of technical projects to support the activities of the Hydrogen Accelerator and the PNDC's evolving

portfolio of low carbon transport projects, with particular emphasis on hydrogen-based low/zero carbon transportation systems, their integration into the wider energy system, and experimental validation and testing. The postholder will be expected to lead on and contribute to high value industrial funding proposals, in addition to working with the PNDC's industrial partners, with a strong focus on knowledge exchange. In this, the successful candidate will benefit from a close association with the Industry Strategy Challenge Fund's Driving the Electric Revolution (DER) Challenge, as a result of PNDC's role within DER Centre Scotland. This provides a unique opportunity to work at the cutting edge of deployed hydrogen projects as part of the energy transition.

Opportunities for innovation are extensive, through the strong working relationship and routes to market afforded by the PNDC's industry members and commercial engagements. This will be supplemented with collaborative opportunities with other research and industry teams in the UK and abroad.

To be considered for the role, you should possess the knowledge, skills and experience normally associated with a PhD in a relevant field or you will be educated to Honours Degree level with relevant industrial experience. You will have experience in low-carbon transport technologies and systems (particularly hydrogen-based), energy systems integration requirements, and the associated protection, control and management systems required to enable robust integration with electrical distribution networks. You will be able to apply this knowledge in a highly practical environment, have experience of leading the delivery of research and development projects in collaboration with industry or in an industrial context, and you will have good technical writing ability and strong communication skills. You must be a self-starter, and able to plan and conduct individual research and knowledge exchange activities with minimal supervision, as well as generate new ideas and concepts, with the capacity to work in a dynamically changing team environment.

The position is offered fixed-term for 24 months with the potential for extension depending on funding.

Job Description

Brief Outline of Job:

The Systems Engineer (Hydrogen) is responsible for the development and successful delivery of research and development projects to support the activities of the Hydrogen Accelerator and the PNDC's evolving portfolio of low carbon transport projects. The role requires strong engagement with industry and academic colleagues within the Hydrogen Accelerator, as well as with the PNDC and wider University team, to support the realisation of relevant and valuable results.

While part of the University, the PNDC is an off-campus industry facing facility based near Cumbernauld.

Main Activities/Responsibilities:

1.	Secure and conduct research, development and testing activities in collaboration with industrial and academic colleagues within the Hydrogen Accelerator, focussed in the areas of low carbon (hydrogen) transport systems and their integration with the wider energy system (in particular utility electrical power systems). This will include aspects of: - Developing project requirement specifications incorporating learnings from previous research - Technology and system design reviews - Technology and system design and system integration studies (including system modelling, simulation and transient performance studies) - Safety evaluations - Electrical power system modelling, simulation and engineering studies - Environmental impact analysis - Techno-economic assessments and feasibility studies - Production of technical guidance and briefings - Timely and on-budget delivery
2.	Provide technical and professional support for broader Hydrogen Accelerator activities, including inputting to strategy, and in particular in the areas of low carbon (hydrogen) transport systems and utility electrical power systems.
3.	Provide quality technical and progress reports of research, development and testing work, adopting best practice in effective knowledge transfer to the Hydrogen Accelerator's stakeholders, and supporting dissemination at conferences and in peer-reviewed journals.
4.	Attend and contribute to internal (Hydrogen Accelerator and PNDC) and external review and progress meetings. Attend site visits/meetings as required.
5.	Plan and manage own workload, with guidance from colleagues as required, while adopting safe and appropriate working practices.
6.	As part of the dynamic team at PNDC, contribute to the Centre's safe operational running, effective administration, and knowledge exchange events and initiatives.
7.	Maintain appropriate engagement with colleagues in the wider university teams, to draw in appropriate expertise into project and proposal activity, exploit synergy with other research programmes, and contribute to sector-leading activities aligned with key industry member and stakeholder needs.
8.	Engage in continuous professional development, participating in external networks and consultations to maintain current knowledge of relevant state of the art, patent positions, products and technology readiness levels.

9. Contribute to policy and industry consultations where appropriate, in support of PNDC's professional contribution to the energy and transport sectors.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 Good Honours degree (minimum class 2:1) in a relevant discipline (e.g. chemical engineering, electrical/electronic engineering, physics)

D1 PhD in appropriate discipline and relevant industrial experience

D2 Membership, or working towards membership, of a relevant Professional Institution

Experience

E2 Experience in low carbon transport system applications, with specific emphasis on hydrogen-based systems

E3 Knowledge of low carbon transport system design and systems integration

E4 Knowledge of electrical power systems design and systems integration

E5 Experience of engaging with external clients to capture system requirements, and to develop technical or project specifications from these requirements

E6 Experience in modelling and simulation in a relevant discipline

E7 Experience of building techno-economic models

D3 Knowledge of the low carbon transport and electricity supply industry landscapes, and of the energy, renewables and hydrogen projects around Scotland and internationally

Job Related Skills and Achievements

E8 An excellent problem-solver, with a track record of achievement in an R&D environment

E9 Ability to work as part of a team

E10 High level of initiative with the ability to apply knowledge in a highly practical environment, and to generate new ideas.

E11 Ability to conduct testing, data analysis, preparation of test programmes and reports and engaging with industrial clients.

E12 Ability to work independently and manage own workload

D4 Ability to learn quickly in a fast moving, changing environment.

Personal Attributes

E13 Enthusiastic self-starter and able to work to deadlines, with a customer focus.

E14 Excellent organisational, interpersonal and communication skills, with the ability to listen, engage and persuade with a range of audiences

E15 The ability to work independently, with minimum supervision, and as part of a small team.

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<https://www.strath.ac.uk/workwithus/vacancies/>).

Informal enquiries about the post can be directed to Richard Knight, Director for Strategy & Technology (richard.knight@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Administrative and Professional staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Interviews

Formal interviews for this post will be held in April 2021.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

