

Research & Development Engineer

(Smart Grid)

Department	Power Networks Demonstration Centre (PNDC) (http://www.strath.ac.uk/research/powernetworksdemonstrationcentre/), Department of Electrical and Electronic Engineering		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Exchange	Reference No	518126
Reports To	PNDC R&D Manager	Grade:	7
Salary Range:	£36024 - £44263	Contract Type:	Fixed Term (24 months)
FTE:	1 (35 hours/week)	Closing Date	Monday, 8 January 2024
Holidays	31 annual leave & 11 public holidays Option to purchase additional holidays		
Pensions	Contributory pension scheme available to all staff including generous employer contribution.		
Training	Professional Development with Organisational and Staff Development Unit (OSDU) plus external training if required		
Family Friendly Benefits	Generous parental leave provision and options for flexible working		
Health and Wellbeing	University Sport centre, Occupational Health service, access to health and wellbeing events, cycle to work scheme, Employee Assistance Programme, agile working and established carers support network and carer friendly policies		

Job Advert

The University of Strathclyde in Glasgow possesses a large internationally rated Engineering Faculty with a proud history of successful joint ventures with industrial and enterprise partners. As part of the University's strategic development, the Power Networks Demonstration Centre (PNDC) has been established in Wardpark North near Cumbernauld. The PNDC is a world-class facility with dedicated staff that will accelerate the adoption of new, 'smart' technologies within advanced power grids, supporting the increased accommodation of renewable energy, electric vehicles and demand side management. The £12.5 million Centre - the first of its kind in Europe – has been founded by the University of Strathclyde and leading energy companies including Scottish Power Energy Networks and Scottish and Southern Energy Power Distribution, with support from Scottish Enterprise and the Scottish Funding Council. Tier 1 industry members of the centre include Scottish Power Energy Networks, Scottish and Southern Energy Power Distribution, and UK Power Networks. The Centre has expanded its membership since its founding and this growth is set to continue.

The PNDC provides: a purpose-built platform for showcasing state of the art electrical distribution, generation, storage and demand side innovation; a rapid technology pipeline accelerating the proving and deployment of integrated smart grid solutions with commercial partners; a realistic and controllable test bed from primary plant to state-of-the-art control room for the development of emerging smart grid technologies that will support the realisation of a de-carbonised grid. The PNDC is formally linked to the University through the Institute for Energy and Environment within the Department of Electronic and Electrical Engineering.



The PNDC seeks to appoint an experienced and enthusiastic Research and Development Engineer to lead and manage delivery of research and knowledge exchange projects in the area of smart grid power systems. This role will involve live network testing using PNDC onsite test infrastructure, real time power system simulation and project dissemination to a wide range of stakeholders. This role will include working in the following thematic areas: the Control Room of the Future, Network and Demand Side management, and the Transition to DSO.

The successful candidate will work as part of a growing dynamic team on a wide range of technical projects and research with particular emphasis on power systems. Opportunities for innovation are extensive, through the strong working relationship and routes to market afforded by the PNDC industry members. This will be supplemented with collaborative opportunities with other research and industry teams in the UK and abroad.

To achieve the above, the R&D Engineer will require demonstrable knowledge, research and/or industrial experience in at least one of the following technical areas:

- a) Power system lab or network testing
- b) Electrical power system steady state and transient modelling
- c) DSO/DNO or SO Control Room Design and/or Operation
- d) Active Network Management
- e) Demand Side Management/Response
- f) Distribution Ancillary Services
- g) Aggregators
- h) System Transition (e.g. DSO)

The post holder will require the knowledge, skills and experience normally associated with a first degree in electrical and engineering and PhD or equivalent industrial experience. The post holder will have an established track record in leading the delivery of research and development projects in collaboration with industry or in an industrial context.

The post holder will have the ability to work autonomously, plan and prioritise their own workload with minimal input from higher management, and deal with complex problems presented to them by colleagues. The post holder will also need significant experience of project planning and delivery, as well as excellent communication and interpersonal skills, with a proven ability to interact with a range of stakeholders from industry and academia.

Job Description

Brief Outline of Job:

You will undertake specific research and development projects under the guidance of the PNDC R&D leadership team, providing regular updates and reports for industrial partners, and thus supporting the Centre objectives and targets.

A strong engagement with industry colleagues, as well as with the PNDC and wider University team, will support the realisation of relevant and valuable results. You will lead specific research areas while contributing to others, and will develop project plans for consideration by industrial partners and clients as well as writing research proposals for geared funding.

Through engagement with relevant professional and knowledge exchange activities, you will support the PNDC's external profile and technical leadership. Working as part of a dynamic team you will further support PNDC administrative and operational activities.

Main Activities/Responsibilities:

1.

As technical project lead of the smart grid projects, collaborate with academic experts in the Institute for Energy and Environment, work with the PNDC R&D Manager to contribute to the realisation of strategy and forward looking materials. Maintain key relationships with industry partner contacts.

2.	Apply technical knowledge to industry issues to investigate and quantify problems experienced by PNDC members, and develop project outlines and project specifications for consideration as part of the centre core programme. As part of this activity, contribute to the development of geared funding proposals.
3.	Manage projects that you are working on (either individually or as part of a small team), ensuring deliverables are met and the findings clearer reported to the project stakeholder.
4.	Plan and manage own workload, with guidance from colleagues as required, while adopting safe and appropriate working practices.
5.	Maintain appropriate engagement with industrial members and third party vendors to ensure relevance and accuracy of work. Maintain professional awareness to ensure originality and exploitability of the research outputs.
6.	Provide quality technical and progress reports of research, development and testing work for distribution to members and clients, adopting best practice in effective knowledge transfer to members, and supporting wider dissemination through impact case studies, conferences and in peer reviewed journals.
7.	Provide mentoring, guidance and support to fellow researchers to ensure maximum value to the PNDC objectives and targets.
8.	As part of the dynamic team at PNDC, contribute to the Centre's safe operational running, effective administration, and knowledge exchange events and initiatives.
9.	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.

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 Electrical Engineering, Power Systems, or similar

E2 PhD or equivalent professional experience

Experience

E3 Experience solving analytical problems using quantitative methods

E4 Demonstrable knowledge, research and/or industrial experience in at least one of the technical areas

E5 Experience with preparation of reports and technical papers

D1 Experience of the existing DNO or SO Control Room and appreciation of expected future development

D2 Experience of Network and Demand Side Management technologies and systems in a utility context

D3 Experience of operational systems used by electrical utilities

D4 Appreciation of the upcoming role for Distribution System Operators in power system operation

Job Related Skills and Achievements

E6 Developing ability to conduct individual research and knowledge exchange activity

E7 Experience of practical power system projects or testing in a lab based or equivalent environment

E8 Experience of power system modelling tools e.g. Simscape, DIgSILENT, IPSA or RTDS

D5 Fluency in high level programming languages for automation, data preparation, and analysis e.g. Python, Java, Matlab

Personal Attributes

E9 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.

E10 The ability to work independently, with minimum supervision, and as part of a small team.

E11 Enthusiastic and able to work to deadlines, with a customer focus.

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted 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 (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Kyle Jennett, Lead R&D Engineer (kyle.jennett@strath.ac.uk/+44 1236 617161).

Conditions of Employment

Conditions of employment relating to the Knowledge Exchange 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.

Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, and disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

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.

