

# Electro-Mechanical / Robotics Engineer

Department	Electronic and Electrical Engineering ( <a href="http://www.strath.ac.uk/eee/">www.strath.ac.uk/eee/</a> )Electronic and Electrical Engineering ( <a href="http://www.strath.ac.uk/eee/">www.strath.ac.uk/eee/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Knowledge Exchange	Reference No	176147
Reports To	HoD through Dr Gordon Dobie	Grade:	8
Salary Range:	£40792 - £50132	Contract Type:	Fixed Term (24 months)
FTE:	1 (35 hours/week)	Closing Date	16/06/2019

## Job Advert

This is a unique and exciting opportunity for an experienced and professional Electro-Mechanical Engineer to join the CUE Robotics Team at the acclaimed University of Strathclyde in Glasgow. Working alongside experts in robotics and automation in a dynamic and fast paced environment, you will have the opportunity to gain unrivalled access to world class lab facilities and cutting edge technology.

The Electro-Mechanical Engineer will work initially on a project funded by the Oil and Gas Technology Centre (OGTC), focusing on the development of a robotic inspection system for the inspection of pressure vessels. It will require the integration of existing robotic hardware and novel sensors to develop and evaluate a prototype solution. You will work with specialists in robotics (including vision and localisation), non-destructive testing (NDT) sensors and algorithms. This work will also be applied to other projects with the Research Centre for Non-Destructive Evaluation (RCNDE) and the Advanced Nuclear Research Centre (ANRC).

This role seeks to strengthen our work into automated inspection of industrial assets such as pressure vessels and pipework. Importantly you will bring professional engineering experience to complement the existing teams focus on research. Your responsibility would be to develop robotic inspection system for specific scenarios. Acting as technical lead you will have the ability to mentor and develop more junior members of the team and therefore you must be a self-starter capable of working without close supervision.

To be considered for the role, you will have a good honours degree and PhD (or equivalent professional experience) in an appropriate discipline. The successful candidate will have knowledge exchange interests which are consistent with the strategic direction of the Department and will have the ability to plan and organise knowledge exchange programmes, and to pull together teams of academic professional staff and others as appropriate, to ensure project delivery for the client and benefits to the University. The successful candidate will be able to directly contribute and make a real difference to a growing team of 25 interdisciplinary engineers with an income portfolio in excess of £6M.

You will be required to travel to partner sites for technical meetings and project demonstrations on a regular basis and, as such, applicants must be willing and able to travel. Applications from candidates with a valid UK driving licence and access to their own vehicle are therefore desirable. The position is based at the Glasgow City Centre campus.

This is initially a two year position although it may be possible for further funding to become available to extend this position.

## Job Description

### Brief Outline of Job:

The Electro-Mechanical Engineer will work initially on a project funded by the Oil and Gas Technology Centre (OGTC), will focus on the development of a robotic inspection system for the inspection of pressure vessels. It will require the integration of existing robotic hardware and novel sensors to develop and evaluate a prototype solution. You will work with specialists in robotics (including vision and localisation), non-destructive testing (NDT) sensors and algorithms.

### Main Activities / Responsibilities:

1.	Responsible for leading the technical direction of the robotic inspection project with OGTC initially and a portfolio of projects. Provide technical mentorship to the team, ensuring engineering standards are met with regard to design, documentation and testing.
2..	Systems engineering including user requirement definition, system diagrams, system integration, optioneering and BOM management.
3.	Electronic engineering including the creation of PCB schematics and layouts following industrial standard approaches.
4.	Develop knowledge exchange objectives, projects and proposals, generate interest in knowledge exchange projects through engagement with industry and professional bodies, conduct individual and collaborative knowledge exchange projects, identify and secure funding for knowledge exchange activities, manage CPD and consultancy activity, disseminate knowledge to ensure that knowledge exchange advances inform departmental/school activity, including research and teaching efforts.
5.	Write reports of findings for external organisations, individually or in collaboration with others (often as lead author), write up findings for additional dissemination as appropriate e.g. for publication in professional or peer reviewed journals, presentation of conference papers. Deal with problems and help colleagues resolve concerns about progress in robotics, engage with industry and professional bodies to generate interest in knowledge exchange projects and collaborations.
6.	Manage a knowledge exchange team (students and staff), providing direction, support and guidance. Strong communication skills including expertise in technical report writing and presentations
7.	Routinely communicate complex and conceptual ideas to those with limited knowledge and understanding as well as peers (on campus/ AFRC/ NMIS). Participate in and develop external networks to foster knowledge exchange collaborations, to inform the development of knowledge exchange objectives and to identify potential sources of funding
8.	Develop ideas for new knowledge exchange initiatives within field, Develop ideas for generating interest in and funding for knowledge exchange initiatives
9.	Build internal contacts and participate in internal networks for the exchange of information and to form relationships for collaboration. Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
10.	Ensure effective coordination and dissemination of key KE (engineering) outcomes to both internal and external stakeholders and wider team members.

## 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 Engineering degree, a minimum of 2:1 Honours Degree in appropriate discipline

E2 PhD in a relevant discipline or equivalent professional experience (e.g. physics, control engineering, automation, mechanical & electrical engineering)

D1 Membership of relevant Chartered/professional bodies (including Higher Education Academy).

Desirable

Application/CV

### Experience

E3 Systems Engineering including system diagrams, BOM management and user requirement definition.

E4 Electronic engineering including PCB schematics and layouts. Electronic engineering including PCB schematics and layouts.

E5	Demonstrable track record in delivering well engineered systems.
E6	Demonstrable track record in delivering projects on time and within budget.
E7	An appreciation of both firmware and higher level programming (such as C#).
E8	Ability to lead and mentor more junior team members.
D2	Mechanical design engineering experience.

### Job Related Skills and Achievements

E9	Sufficient knowledge and skills to be able to establish and maintain a network of relevant contacts, and ensure creditability within external partnerships
E10	Ability to plan and organise knowledge exchange programmes, and to pull together teams of academic professional staff and other as appropriate, to ensure project delivery for the client and benefits to the University.
D3	Background working with small scale motors or consumable devices rather than large industrial devices (such as in Oil and Gas) would be important.

E11	Ability to work constructively within a team environment and to lead teams.	Essential	Interview
		Essential	Interview

### Personal Attributes

E12	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.
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### Other Relevant Factors

E13	Willing and able to travel to partner sites for technical meetings and project demonstrations.
D4	Valid UK driving licence with access to own vehicle.

## Application Procedure

Applicants are required to complete an application form including the names of three referees. Please advise when these may be contacted. Applicants should also submit a CV and a covering letter as a single document 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 Dr Gordon Dobbie at [gordon.dobie@strath.ac.uk](mailto:gordon.dobie@strath.ac.uk)

### 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](#).

### Conditions of Employment

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

### 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

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.

