

# Research Associate

Department	Mechanical and Aerospace Engineering ( <a href="http://www.strath.ac.uk/engineering/mechanicalaerospaceengineering/">www.strath.ac.uk/engineering/mechanicalaerospaceengineering/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Research	Reference No	504019
Reports To	ESRU Director	Grade:	7
Salary Range:	£34,308 - £38,592	Contract Type:	Fixed Term (24 months)
FTE	I (35 hours/week)	Closing Date	Sunday, 26 February 2023

## Job Advert

Across the developed world, Governments are setting aggressive goals to achieve a net zero energy system by 2050. As a major energy consumer, improving the energy performance of the built environment will be key to achieving these goals. Building performance simulation has emerged as an essential tool to improve the energy and environmental performance of new and existing buildings. However, building performance appraisal must continue to evolve, through the development of new computational approaches and tools, to meet the many challenges posed by the net-zero transition. These challenges include the integration of new, local zero-carbon generation and energy storage into buildings, the use of new materials in the building fabric, new energy vectors such as hydrogen, the integration of electric vehicle loads to building demand, and the use of smart controls to coordinate energy supply, storage, and demand to minimise energy costs and emissions without compromising functionality. Moreover, there is also a need to close the so-called 'performance gap' between the predictions of simulation tools and the actual performance of buildings.

The Energy Systems Research Unit (ESRU) within the Department of Mechanical & Aerospace Engineering at the University of Strathclyde, has a longstanding, international reputation for the development and advancement of building simulation software and its application in leading UK and international research projects. An opportunity has arisen for a Research Associate to join the team at ESRU and assist in the delivery of our large and varied portfolio of built environment research and knowledge exchange projects.

The Research Associate will liaise with the existing team of researchers within the ESRU, and with researchers and co-investigators from leading international research groups collaborating in these projects.

Educated to a minimum of PhD level in an engineering or science discipline, with experience in in mechanical or electrical engineering applies to the built environment. You will have demonstrable track record in the application of building performance simulation tools for research purposes and ideally experience in the development or adaptation of software to meet research goals. You will have an ability to plan and organise your own workload, with a developing ability to conduct individual research work, to disseminate results and to prepare research proposals and journal/ conference papers. You will have excellent written and verbal communication skills, with an ability to influence a range of stakeholders in both industry and academia. You will have an ability to listen, engage and persuade, as well as present complex information in an accessible way to a range of audiences and you will be able to work as part of a team.

Whilst not essential for the role, applications are welcomed from candidates with experience of data acquisition technologies and the monitoring of real building performance together with relevant work experience, membership of an appropriate Chartered/professional bodies (including the Higher Education Academy) and/or experience of knowledge exchange related activities.

## Job Description

### Brief Outline of Job:

To work with the research team and undertake the development of building performance models and develop new methods of robust and improved computational evaluation of building energy and environmental performance. These new methods will be verified and validated against empirical data from new building energy and environmental monitoring programs being undertaken; to establish a personal research portfolio, scope new research focus and plan new research proposals, with assistance from senior colleagues as required; to engage where required in professional and knowledge exchange activities; engage with industry partners and demonstrate the impact of outputs to their business operations; and provide input to administrative activities where appropriate.

### Main Activities/Responsibilities:

1.	As part of a wider research group or programme, develop research objectives and proposals for own or joint research and play a lead role in relation to a specific project/s or part of a broader project, with guidance from senior colleagues as required
2.	Plan and manage own workload, with guidance from colleagues as required.
3.	Conduct individual and/or collaborative research, including determining appropriate research methods and contributing to the development of new research methods.
4.	Develop an awareness of sources of funding and contribute to the securing of funds for research, including contributing to the drafting of grant proposals and planning for future proposals.
5.	Write up research work for publication, individually or in collaboration with colleagues, and disseminate results as appropriate to the discipline by, for example, peer reviewed journal publications and presentation at leading conferences.
6.	Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
7.	Collaborate with colleagues on the development of knowledge exchange activities by, for example, participating in initiatives which establish research links with industry and influence public policy and the professions.
8.	Co-supervise postgraduate student projects, provide advice to students and contribute to the development of teaching as required by, for example, supervising research related work.
9.	Contribute in a developing capacity to Department/School, Faculty and/or University research administrative and management functions and committees.
10.	Engage in continuous professional development.

## 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 and PhD (or equivalent professional experience) in an appropriate discipline i.e. Mechanical, Electrical, Environmental and Energy Engineering

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

### Experience

E2 Sufficient breadth or depth of knowledge in the relevant discipline/s to contribute to research programmes and to the development of research activities.

D2 Some relevant work experience.

D3 Experience of relevant postgraduate student supervision and teaching activities.

D4 Experience of knowledge exchange related activities.

### Job Related Skills and Achievements

E3 Developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

E4 Ability to plan and organise own workload effectively.

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E5 Ability to work within a team environment.

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### Personal Attributes

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E6 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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## Application Procedure

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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

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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 Mr Cameron Johnstone, ESRU Director ([cameron.johnstone@strath.ac.uk](mailto:cameron.johnstone@strath.ac.uk)).

### Conditions of Employment

Conditions of employment relating to the Research 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 on 08/03/2023.

### 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.

