

# Research Associate

Department	Architecture ( <a href="http://www.strath.ac.uk/engineering/architecture/">www.strath.ac.uk/engineering/architecture/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Research Associate in Intelligent Energy Systems	Reference No	599509
Reports To	Prof. Sonja Oliveira	Grade:	7
Salary Range:	£36,024 - £44,263	Contract Type:	Fixed Term (12 months)
FTE:	1 (35 hours/week)	Closing Date	Wednesday, 17 April 2024

## Job Advert

The Department of Architecture is a leading provider of education and research in Architecture and the Built Environment. The department's REF 2021 submission was rated 100% 'outstanding' for impact and was the only submission in the unit in the UK to achieve this. The need to address the challenges of climate change and energy justice through innovation in design and socially responsive architecture is core to the departments' research agenda, with the drive towards healthy buildings and equitable neighbourhoods and communities a key commitment to teaching, learning and research activities in all courses and projects.

We are looking for an outstanding candidate who has an established track record of high-quality research, with particular expertise in computational science, energy demand and the built environment. The candidate will be able to work within a multidisciplinary environment and collaborate with a range of project partners within architecture, computation, engineering, geography and energy. This post will expand recent Departmental appointments to build substantial world leading expertise in this area of strategic importance for the Institution and Society.

We would love to hear from you if you have a PhD and postdoctoral research experience in computational science and energy demand research approaches (ideally, with a focus on multiagent systems and computational methods based on analysis of social data); a good knowledge and understanding of energy demand and energy behaviours research as well as ability to understand and analyse both quantitative and qualitative data. An emerging publication history in high quality academic journals; and research interests which align with this area are of strategic priority. Experience with computational research (multiagent systems) and energy demand policy in the UK and Europe are essential.

### Project details

GLOW-Energy nested bio system flows: from the home to the hub is an EPSRC funded project with the aim of providing an innovative dynamic approach to transform how people manage energy in homes inspired by social context. A new computational system will be developed to identify and communicate social and spatial patterns found between individual household energy use and community energy demand. In addition, a biomimetic inspired approach drawing on bees' behaviours will be tested to optimise human found dynamics. The candidate will support the project by contributing to coding of the new model characteristics and multi-agent behaviours, testing of the developed model drawing on both human and bees' logics, as well liaising with participant organisations and partners and assisting with the dissemination and testing of the developed new system via journal publications, events, policy engagement and industry discussions.

As a Research Associate, under the general guidance of a research leader you will play a lead role in relation to a specific parts of a broader project, conduct collaborative research, contribute to the development of new research methods, and contribute to the dissemination activities of the project, including liaison with partner organisations, publications pipeline and planning for future proposals. You will write up research work for publication in collaboration with colleagues, and disseminate the results via peer reviewed journal publications and presentation at conferences. You will join external networks to share information and

ideas, inform the development of research objectives and identify potential future sources of funding. You will collaborate with colleagues to ensure 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. You will contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees and engage in continuous professional development.

To be considered for the role, you will be educated to a minimum of PhD level in an appropriate discipline including computation, engineering or combined interdisciplinary degrees. You will have sufficient breadth or depth of knowledge in Energy Demand Management and Energy Data Analytics as well as Computer Science, and a developing ability to conduct individual research work, maintain records of the research process, administer project team and steering group meetings, disseminate results and to prepare research proposals. You will have an ability to plan and organise your own workload effectively and an ability to work as part of a team in a dynamic academic environment. You will have 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.

Whilst not essential for the role, applications are welcomed from candidates with: membership of relevant Chartered/professional bodies (including the Higher Education Academy), active engagement in applied research and/or a growing record of securing funding and managing research projects.

## Job Description

### Brief Outline of Job:

To undertake a specific research project/s under the general guidance of a research leader; to establish a personal research portfolio and plan research proposals, with assistance from senior colleagues as required; to engage where required in relevant teaching, professional and knowledge exchange activities; and input to administrative activities.

### Main Activities/Responsibilities:

1.	Research and carry out relevant literature reviews in areas including: energy demand response and flexibility programmes in the UK and internationally, computational methods drawing on social context on energy, policy implications for demand response programmes
2.	Computational System Development: Carry out a range of activities including modelling, designing, programming, testing, calibrating, and documenting socio-technical computational systems. Data analysis and visualisation: Manage and analyse data outputs from primary data collection and simulations and evaluate metrics of interest consolidating results
3.	Engage in disseminating research and developing impact generating activity
4.	Maintain detailed and accessible records of the research process.
5.	Engage with project stakeholders, including industrial partners, research subjects and advisory board members, to co-ordinate and develop planned research activities.
6.	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 conferences.
7.	Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
8.	Collaborate with colleagues to ensure that research advances inform project efforts.
9.	Engage with project stakeholders, including industrial partners, research subjects and advisory board members, to co-ordinate and develop planned research activities.
10.	Contribute to the development, summary, and presentation of findings, including industry reports and teaching materials.
11.	Contribute to planned impact activities to maximize the impact of the research project.
12.	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. Computational social science, computer science, environmental sciences and engineering

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

### Experience

E2 Very good knowledge of energy demand and computational approaches drawing on social data

E3 Very good knowledge of multi-agent systems

E4 Ability to understand and analyse social and technical data and write up results

E5 Experience with qualitative research (including interview data) and computational data

D2 Experience of knowledge exchange related activities.

D3 Experience with teaching curriculum development

### Job Related Skills and Achievements

E6 Good programming skills, particularly with Python (preferable) or any of: R, Julia or Matlab.

E7 Solid foundational knowledge of quantitative research methods in social sciences

D4 Understanding of agent-based models and simulation

E8 Developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

E9 Ability to plan and organise own workload effectively.

E10 Ability to work within a team environment.

### Personal Attributes

E11 Ability to tackle everyday challenges with independence, using their initiative and expertise to progress towards goals set, while still engaging with wider team for direction and support

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.

## 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 Sonja Dragojlovic-Oliveira, Sonja [Dragojlovic-Oliveira@strath.ac.uk](mailto:Dragojlovic-Oliveira@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 a date to be confirmed.

## 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.

