

Research Associate

Department	Civil and Environmental Engineering (www.strath.ac.uk/engineering/civilenvironmentalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Research	Reference No	607179
Reports To	Dr Jennifer Roberts	Grade:	7
Salary Range:	£36,024 - £44,263	Contract Type:	Fixed Term (36 months)
FTE:	1 (35 hours/week)	Closing Date	Wednesday, 1 May 2024

Job Advert

The Department of Civil and Environmental Engineering is a dynamic, multidisciplinary environment known for its friendly and supportive research culture. We value research excellence and the willingness to support others and work as a team. We have tripled our annual research income in the past 6 years to £4M. In 2022 we became the first UK Engineering Department to receive an Athena Swan Gold award for gender equality. A signatory of the Researcher Development Concordat, the University of Strathclyde is strongly committed to supporting the professional and career development of our Researchers.

The Department of Civil and Environmental seeks to appoint a Research Associate to make a leading contribution to a major new Horizon Europe funded project "[Bridging current knowledge gaps to enable the UPTAKE of carbon dioxide removal methods](#)". UPTAKE aims to develop resilient carbon dioxide removal (CDR) strategies based on strengthened scientific evidence on the social, technological, economic, and environmental characteristics of CDR technologies and their interplay. The UPTAKE consortium is coordinated by Fondazione Centro Euro-Mediterraneo Sui Cambiamenti Climatici (CMCC) and brings together 21 partners with well-established and world-leading expertise in CDR technology assessment, integrated assessment modelling, social science methods, and climate policy and governance issues. Strathclyde's role is in the techno-economic assessment of CO₂ geological storage (Carbon Capture and Storage, CCS) as used by DACCS and BECCS CDR methods. The project presents an exciting opportunity to carry out, publish and communicate important, timely, collaborative, and globally relevant research.

As a Research Associate you will develop research objectives and proposals, play a key role in the UPTAKE project, and conduct individual and collaborative research. You will write up research work for publication, individually or in collaboration with colleagues, and disseminate the results via peer reviewed journal publications, presentation at conferences, and other engagement approaches. You will participate in external networks to share information and ideas, and 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. You will contribute in a developing capacity to Department supervision, teaching, administrative and management functions and committees and engage in continuous professional development.

To be considered for the role, you have a PhD in an area relevant to subsurface management and technology scale-up and climate mitigation assessment, or have significant relevant experience in addition to a relevant degree. You will have sufficient breadth or depth of knowledge in geological storage of CO₂, reservoir engineering/basin modelling, understanding of development of industrial clusters and hubs for CCS, awareness of non-technical requirements for deployment of CCS at scale and a developing ability to conduct individual research work, to disseminate results and to prepare research proposals.

Experience and confidence with collaborative working approaches, and working with and influencing stakeholders is highly desirable. 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. Ability to write for, and present at conferences, and deliver research suitable for publication in peer-reviewed journals is essential, as is the ability to deliver clear and high-impact policy and public facing outcomes.

You will have knowledge of appropriate research methods have an ability to plan and prioritise your own workload with general supervision, and you will have an ability to work within a team environment. You should be self-motivated, well-organised, and be able to work independently to meet deadlines.

Whilst not essential for the role, applications are welcomed from candidates with relevant work experience, membership of relevant Chartered/professional bodies, experience of relevant student supervision and teaching activities, and/or experience of knowledge exchange related activities.

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.

The Research Associate will develop regionally differentiated geological storage capacity estimates incorporating newly constrained injection start points and dynamic capacity estimates. Start points will be informed by assessment of existing infrastructure and expertise, basin scale screening progress and data availability as well realistic Carbon Dioxide Removal (CDR) project development times based on historical experience and considering factors such as infrastructure, skills and/or workforce constraints and other wider influencers. Dynamic capacity assessments will follow the basinal pressure approach developed by [Ringrose and Meckel \(2019\)](#) to give constrained capacities in each region as well as injection rates developed from well deployment rates for the constrained pressure increase. Consideration of uncertainty in estimates as impacted by investment risk perception at project development stage will be included to give ranges of potential capacities.

Importantly, the Research Associate will work with the Integrated Assessment Model (IAM) community in the UPTAKE consortium to ensure that new capacity constraints can integrate with the IAMs. This integration will enable the analysis of the timing and scale-up of different CDR options including the role of Carbon Capture and Storage (CCS) cluster developments and infrastructure to enhance the understanding of global and EU CDR potentials in the short- and medium-term. The Research Associate will also be expected to contribute geological and other relevant expertise to the UPTAKE project to e.g. the CDR evidence base and Life Cycle Assessment research. A broad perspective of CDR and CCS development and ability to communicate within and across disciplines is therefore desirable for the role.

Main Activities/Responsibilities:

1.	Conduct individual and collaborative research in the development of dynamic geological storage capacities, including determining appropriate research methods and contributing to the development of new research methods.
2.	Plan and manage own workload, with guidance from colleagues as required.
3.	Lead or co-author academic papers and present research findings at conferences and workshops.
4.	Be an active member of the UPTAKE consortium, including attending meetings across Europe, contributing to workshops and discussion groups, writing public-facing materials, and supporting research programme activities, strengthening relationships across the consortium.
5.	Join external networks to share information and ideas and 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.
6.	Contribute in a developing capacity to Department supervision, teaching, administrative and management functions and committees.
7.	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 field e.g. geoscience, geology, geoenergy, geological engineering, hydrogeology, and so on.

Experience

E2 Sufficient breadth or depth of knowledge in the geological storage of CO₂, reservoir engineering/basin modelling, understanding of development of industrial clusters and hubs to contribute to research programmes and to the development of research activities.

D1 Awareness of non-technical requirements for deployment of CCS at scale.

D2 Experience in conducting individual and collaborative research work, including communicating across disciplines, task management, and engaging with or delivering knowledge exchange activities.

D3 An excellent or growing publication record, and experience preparing public-facing outputs

Job Related Skills and Achievements

E3 Developing ability to conduct individual research work, including research design, and skills in analysing data and writing and disseminating research.

E4 Ability to plan and organise own workload effectively.

E5 Ability to work within a team environment.

Personal Attributes

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.

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 Dr Jennifer Roberts, Senior Lecturer (jen.roberts@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.

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.

