Research Fellow

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	626010
Reports To	Dr Jennifer Roberts	Grade:	8
Salary Range:	£45585 - £51283	Contract Type:	Fixed Term (36 months)
FTE:	1	Closing Date	21 July 2024

Job Advert

We seek to appoint a Research Fellow to join 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 CO_2 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, communicate and grow a portfolio of important, timely, collaborative, and globally relevant research.

As a Research Fellow, you will engage as an independent researcher in individual and collaborative research, establishing a distinctive programme of research and disseminating results through regular publications in high impact journals, books and conference proceedings. You will apply, as Principal Investigator and/or Co-Investigator, to appropriate external bodies for research funding and manage grants awarded. You will manage research students and staff, providing direction, support and guidance and you will participate in and develop external networks to foster research collaborations, to inform the development of research objectives and to identify potential sources of funding. You will develop knowledge exchange activities by, for example, establishing research links with industry and influencing public policy and the professions and you will collaborate with colleagues to ensure that research advances inform departmental teaching effort, including contributing to relevant teaching programmes as appropriate. You will carry out Department/School, Faculty and/or University administrative and management functions, for example through membership of committees and engage in continuous professional development.

To be considered for the role, you must have a PhD in an area relevant to subsurface management and technology scale-up and climate mitigation assessment. You will have significant relevant experience that brings a breadth and depth of knowledge in geological storage of CO_2, subsurface engineering and basin modelling, understanding of development of industrial clusters and hubs for CCS, awareness of non-technical requirements for deployment of CCS at scale.

You will have research interests consistent with the strategic direction of the Department/School, a body of published research in high quality publications demonstrating standards of excellence, and an ability to develop research proposals and to attract funding and research students, as appropriate to the discipline, including experience of contributing to grant applications. You will have an ability to plan and organise research programmes, to ensure successful completion and you will have experience of planning and organising workloads, including the ability to supervise and delegate work. Experience and confidence with collaborative working approaches, and working with and influencing stakeholders is essential. You will have some experience of teaching at undergraduate and/or postgraduate levels, an ability to work within a team environment and to lead teams and 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.

Whilst not essential for the role, applications are welcomed from candidates with: membership of relevant Chartered/professional bodies (including the Higher Education Academy), experience of multi/inter-disciplinary research, experience of student assessment activities and/or a track record in knowledge exchange related activities.

The Department of Civil and Environmental Engineering is a dynamic, multidisciplinary environment known for its friendly and supportive research culture. 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.

Job Description

Brief Outline of Job:

To pursue and establish an independent and high quality research programme, including securing research contracts and funding; to disseminate research results via publications in peer reviewed journals; where appropriate, to manage a research team (staff and students); to engage as appropriate in relevant teaching, professional and knowledge exchange activities; and to carry out administrative tasks assigned by the Head of Department/School.

Specifically, the Research Fellow 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 and other non-technical influencing factors will be included to give ranges of potential capacities.

Importantly, the Research Fellow will work closely 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. A broad perspective of CDR and CCS development and ability to communicate within and across disciplines is therefore essential for the role.

Main Activities/Responsibilities:

1.	Engage as an independent researcher in individual and collaborative research establishing a distinctive programme of research including in the development of dynamic geological storage capacities, including determining appropriate research methods and/or 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 disseminate results through regular publications in high impact journals, books and conference proceedings.
4.	Apply, as Principal Investigator or Co-Investigator, to appropriate external bodies for research funding and manage grants awarded.
5.	Be an active member of the UPTAKE consortium, including attending meetings across Europe, contributing to workshops and discussion groups, writing public-facing materials, and contributing to wider research programme activities, strengthening relationships across the consortium.
6.	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 and inform the development of research objectives, and to identify potential sources of funding.
7.	Manage a research team (students and staff), providing direction, support and guidance.

8.	Contribute to Department/School, Faculty and/or University supervision, teaching, administrative and management functions, for example through membership of committees.
9.	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.
D1	Membership of relevant Chartered/professional bodies (including Higher Education Academy).
Experience	
E2	Sufficient breadth or depth of knowledge in the geological storage of CO2, basin modelling, handling geological heterogeneity and uncertainty, and understanding of development of industrial clusters and hubs to contribute to research programmes and to the development of research activities.
E3	Highly proficient at subsurface software including Petrel, and excellent GIS skills.
E4	Awareness of non-technical requirements for deployment of CO2 geological storage at scale.
E5	Experience in conducting individual and collaborative research work, including communicating across disciplines, task management, and engaging with or delivering knowledge exchange activities.
D2	Experience on committees and similar governance or organisational roles.
E6	An excellent and growing publication record, and experience preparing public-facing outputs.
E7	Experience of applying for external funding including research or consultancy.
E8	Experience of multi/inter-disciplinary research.
E9	Experience of planning and organising workload, including delegating work.
E10	Some experience of teaching at undergraduate and/or postgraduate levels and experience of supervision.
D3	Experience of student assessment activities
Job Related Skills and Achievements	
E11	A body of published research in high quality publications demonstrating standards of excellence.
E12	Ability to conduct individual research work, including research design, and skills in analysing data and writing and disseminating research.
E13	Ability to plan and organise research programmes to ensure successful completion, including to plan and organise own workload effectively.
E14	Ability to work within a team environment and to lead teams.
E15	Ability to develop research proposals and to attract funding, including experience of contributing to grant applications.
D4	Track record in knowledge exchange related activities.
Personal Attributes	
E16	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.
D5	Research interests consistent with the strategic direction of the Department/School.

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.

Interviews

It is anticipated that formal interviews for this post will be held on Wednesday, 7 August 2024.

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.