

Teaching/Research Associate in Geotechnical/Civil Engineering

Department	Civil & Environmental Engineering (www.strath.ac.uk/civeng/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Teaching/Research	Reference No	391955
Reports To	Head of Department through Dr Grainne El Mountassir/Prof Rebecca Lunn	Grade:	7
Salary Range:	£33,309	Contract Type:	Fixed term (48 months)
FTE	1 (35 hours/week)	Closing Date	17/09/2021

Job Advert

The Department seeks to appoint a talented individual to a 4-year combined teaching and research associate position. The position will provide teaching cover for an academic staff member who is being seconded to a new role. The candidate will have the ability to teach Geotechnical/Civil Engineering modules to a high standard at undergraduate level. Furthermore, the position is being partly funded via a research project on microbially-induced calcium carbonate precipitation (MICP) for concrete repair. As such the candidate will split their time between teaching and research activities.

The aim of the research is to optimise treatment strategies for upscaling MICP treatment of concrete from the laboratory-scale to the field-scale. We have recently demonstrated the potential of MICP to repair degraded concrete in small-scale laboratory tests; MICP acts to both reduce permeability and improve overall strength. Alongside teaching responsibilities, this position will focus on developing treatment strategies that are practical for large-scale and field-scale deployment, in order to deliver a reliable low-carbon engineering solution, that can be used by practicing civil engineers. New cement replacement technologies such as MICP, are key to the world meeting its carbon emissions targets. You will be joining an enthusiastic and friendly team of postgraduate and postdoctoral researchers that are researching various novel grouting technologies for a range of engineering applications including soil stabilisation, rock fracture sealing and concrete repair. You will work closely with industry partners including Babcock Intl. and BAM Nuttall.

This position is based in the Department of Civil & Environmental Engineering, a dynamic department, with a friendly and active teaching and research culture. The Department consistently receives excellent feedback on UG and PGT teaching quality and we are ranked in the UK top 10 for Civil Engineering (Complete University Guide, 2021). Our department has a diverse range of high standard teaching programs ranging from full time degree programs, to distance learning such as our Graduate Apprenticeship degree. We also have an exciting new International Joint Education Program (IJEP) with Yunnan University in China (delivered in English language) and there may be opportunities for the successful candidate to spend 2-4 weeks of the academic year teaching in China.

The University is seeking a candidate that can deliver high quality teaching in geotechnical/civil engineering, has excellent communication skills and enjoys working within a multidisciplinary team. You will contribute to: laboratory-based research; field trials with the industry partner; and data analysis and computational modelling. Not all of these skills are required as prior experience, training is available, but an ability and enthusiasm to learn new skills is essential.

The 4-year position is available for a full-time postdoctoral teaching/research associate. The successful candidate should have a relevant undergraduate degree (e.g. Civil Engineering, Structural Engineering, Materials, Environmental Engineering) and have successfully completed their PhD in a relevant field (e.g. MICP or other microbial precipitation technologies, geotechnical engineering, structural engineering, environmental engineering).

Job Description

Brief Outline of Job:

To design and deliver a range of teaching materials and undertake student assessment activities. To conduct experiments investigating MICP treatment of concrete at laboratory and field-scales.

Main Activities/Responsibilities:

1.	As part of a teaching team, design and deliver a range of teaching materials at undergraduate level, with guidance from colleagues as required. Develop own teaching materials and methods, with guidance, to ensure that defined learning objectives are met.
2.	Develop and undertake student assessment and examination activities, including the provision of appropriate feedback to students.
3.	Contribute to supervision of undergraduate and postgraduate student projects, providing direction, support and guidance.
4.	Critically evaluate and reflect on teaching practices and methodology and collaborate with colleagues on course development activities and in the planning and implementation of curriculum changes.
5.	Contribute to scholarship activities, continually updating professional knowledge and skills and incorporating this learning, as appropriate, into teaching delivery
6.	Design, develop and implement experimental research programme. Conduct individual and collaborative research in order to meet overall research objectives, delivering against agreed milestones.
7.	Develop efficient MICP treatment strategies for large-scale application.
8.	Write up research work, individually or in collaboration with colleagues and disseminate results as appropriate by internal and external presentations, project reports, and publications in leading science/engineering peer reviewed journals.
9.	As part of the wider research group/programme, contribute to and develop research objectives and proposals for own or joint further research and play a lead role in exploring further dimensions of the research programme, with guidance from colleagues as required.
10.	Work effectively and liaise with and report to interested industry partners as required.
11.	Contribute in a developing capacity to the Department/School, Faculty and/or University administrative and management functions and committees
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 in Civil Engineering (or other relevant discipline)

E2 PhD (or equivalent professional experience) in an appropriate discipline (e.g. MICP or other microbial precipitation technology, geotechnical engineering, structural engineering, environmental engineering).

Experience

E3 Excellent knowledge of geotechnical/ civil engineering and sufficient knowledge to teach to a high standard at undergraduate level.

E4 Developing knowledge of teaching and student assessment methods

E5 Experience working in a civil engineering research laboratory

D1 Knowledge of biomineralisation or other relevant technologies

E6 Sufficient breadth or depth of knowledge in the relevant discipline/s to contribute to research programmes and to the development of research activities.

E7 Ability to translate knowledge of advances in subject area into teaching and assessment methods and materials

Job Related Skills and Achievements

E8 Developing ability to conduct individual research work, to disseminate results to a range of audiences and to prepare research proposals

E9 The ability to manage complex and dynamic workloads and schedules

Personal Attributes

E10 Ability to plan and organise own workload effectively, meet deadlines and work in a safe, effective manner.

E11 Ability to work within a multi-disciplinary team.

E12 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade and to present complex information in a simple way to a range of audiences (including students and industrial partners)

D2 Willingness to teach in China for 2 – 4 weeks on IJEP program if requested

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate 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. 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 Grainne El Mountassir, (grainne.elmountassir@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Teaching 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](#).

PVG Check

This position involves regulated work, making it a legislative requirement that the successful candidate becomes a member of the Protection of Vulnerable Groups Scheme. If appointed, employment with the University will not be confirmed, until membership of the Scheme has been received. The successful applicant will be precluded from working with protected groups until that time

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

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 gender equality in academia across all academic disciplines and professional and support functions.

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.

