



University of
Strathclyde
Glasgow



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Research Associate in Large Deformation Finite Element (LDFE) Modelling

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	601984
Reports To	The Head of School/Department, through	Grade:	7
Salary Range:	£36024 - £44263	Contract Type:	Fixed Term (9.5 months)
FTE:	1 (35 hours/week)	Closing Date	Sunday, 31 March 2024

Job Advert

The Department of Civil and Environmental Engineering at University of Strathclyde is seeking to recruit a talented researcher for a 9.5-month Research Associate position to work on a project led by Dr Stephen Suryasentana from University of Strathclyde, in collaboration with Dr Zhang Wangcheng from Durham University.

The aim of the project is to identify the key flow and soil deformation processes that occur during pressure cycling installations of suction caisson foundations, and develop new analytical models to predict these processes. The post holder will carry out large deformation finite element modelling to investigate the effect of different pressure cycling strategies on the flow and soil deformation behaviour during suction caisson installation. The post holder will design and validate their models using available field data. Additionally, the post holder will contribute to the development of new analytical models based on insights from the finite element modelling. The post holder is expected to write up research work for publication, individually or in collaboration with colleagues, and disseminate the results via peer reviewed journal publications. The post holder will also have opportunities to provide supervision and guidance on related PhD student projects.

To be considered for the role, you will have completed a PhD in geotechnical/civil/mechanical/numerical engineering or a related discipline. You should have prior experience in using large deformation finite element modelling techniques, such as RITSS, for hydro-mechanical coupled problems. Ideally, you should be familiar with using the ABAQUS finite element software. You will be able to plan, organise, and prioritise your own workload effectively and independently, including leading the preparation of papers. Candidates who have not yet been officially awarded their PhD will be appointed as a Research Assistant at the salary range of £31,396 to £34,980 per annum, depending on their current stage in their PhD program.

This position is full time and available for a fixed term of 9.5 months. The post holder will be based in the Department of Civil and Environmental Engineering at the University of Strathclyde in Glasgow, UK. Flexible working arrangements are possible, subject to agreement with the project leads.

For informal enquiries, please contact Dr Stephen Suryasentana, stephen.suryasentana@strath.ac.uk.

Job Description

Brief Outline of Job:

You will undertake research using large deformation finite element modelling to identify the key flow and soil deformation processes that occur during pressure cycling installations of suction caisson foundations. You will contribute to the development of analytical models that predict these processes. You will disseminate your findings in a timely manner with support from senior colleagues within the project team through peer-reviewed journal publications.

Main Activities/Responsibilities:

1.	Carry out large deformation finite element modelling to investigate the pressure cycling installation of suction caissons
2.	Conduct individual and/or collaborative research, including determining appropriate research methods and contributing to the development of new analytical models.
3.	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.
4.	Contribute to supervision of postgraduate students within the research group.
5.	Liaise with colleagues and students in the research group and report to external project partners (both from academia and industry)
6.	Plan and manage own workload, with guidance from colleagues as required.

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)

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| E1 | Good honours undergraduate degree or Masters Degree in a relevant science or engineering discipline (e.g. Civil/Geotechnical/Mechanical/Computational Engineering, Physics or another related degree) |
| E2 | PhD (or equivalent professional experience) in an appropriate discipline (e.g. geotechnical/civil/mechanical engineering or computational/numerical simulations). |

Experience

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| E3 | Sufficient breadth or depth of knowledge in large deformation finite element modelling |
| D1 | Experience with large deformation finite element modelling techniques, such as RITSS, for hydro-mechanical coupled problems |
| D2 | Experience with the use of the ABAQUS finite element software |

Job Related Skills and Achievements

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| E4 | Developing ability to conduct individual research work and to disseminate results. |
| E5 | Ability to plan and organise own workload effectively |
| E6 | Ability to work within a team environment. |
| D3 | Ability to write high quality journal papers. |

Personal Attributes

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| E7 | 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

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 Stephen Suryasentana, Chancellor's Fellow (Lecturer), (stephen.suryasentana@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 Wednesday, 10 April 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.

