



Job title	Research Fellow	Job family and level	Research and Teaching Level 4
School/ Department	Engineering	Location	Coates Building C8

Purpose of role

The purpose of this role will be to support the principal investigator Professor Glenn McDowell in conducting research in the area of micro mechanics of clay for the EPSRC research project “Exposing the micro mechanics of continuum parameters for clay”. The post holder will be expected to undertake independent research as well as working as part of a team with a second Research Fellow. This will include using approaches or methodologies and techniques appropriate to the type of research, and will be responsible for writing up their work in order to contribute to published outcomes.

The role holder will have the opportunity to use their initiative and creativity to identify areas for research, develop research methods and extend their research portfolio.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	To perform discrete element modelling of clays using YADE incorporating clay particle interactions.	70%
2	To plan and conduct research using recognised approaches, methodologies and techniques within the research area and support the development of research objectives and proposals for own and/or collaborative research area.	30%
3	To analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights to research area.	
4	To contribute to writing up research findings for publication.	
5	To assist with the preparations, proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.	
6	To build internal and/or external contacts to develop knowledge and understanding, forming relationships for future collaborations.	
7	To co-ordinate the operational aspect of research networks, for example, arranging meetings, producing and maintaining	

	websites etc and contribute to collaborative decision making with colleagues in area of research.	
8	▪ To provide guidance as required to support staff and students, where appropriate in own area of expertise.	
9	▪ To collaborate with academic colleagues on areas of shared interest for example, course development, collaborative or joint research projects.	
10	▪ To plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others.	

Person specification

	Essential	Desirable
Skills	▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. ▪ Developing research skills, with the ability to creatively apply relevant research approaches, models, techniques and methods ▪ Ability to contribute to method improvement. ▪ Analytical ability to facilitate conceptual thinking, innovation and creativity. ▪ Ability to build relationships and collaborate with others, internally and externally. ▪ Skills in the use of engineering software, specifically discrete element modelling.	▪ Ability to assess and organise resource requirements and deploy effectively. ▪ Ability to foster a research culture and commitment to learn in others. ▪ High analytical ability to analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights.
Knowledge and experience	▪ Evidence of sufficient breadth or depth of research methodologies and techniques to work in research area. ▪ Some practical experience of applying the specialist skills approaches and techniques required for the role. ▪ Evidence of using research methodologies and techniques to work within research area	▪ Experience of developing new approaches, models, techniques or methods in research area.
Qualifications, certification and training (relevant to role)	▪ PhD in soil mechanics or other area related to clay ▪ Experience in use of discrete element modelling software	▪ Master's Degree, or equivalent in relevant subject area. ▪ Experience in discrete element modelling of clays ▪ Experience in micro mechanics of clays ▪ Experience in using the software YADE
Statutory, legal or special requirements		

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
Taking ownership	Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
Forward thinking	Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
Professional pride	Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
Always inclusive	Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others

Line manager

Professor
Glenn
McDowell

Role holder

Research
Associate
or Fellow

