



Job title	Research Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed)	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed)
School/ Department	Faculty of Engineering	Location	University Park Campus

Purpose of role

The focus of this role will be the development of mathematical and computational tools for modelling coupled physical processes in porous media, eco-geohydrology, and/or carbon storage; to work in an interdisciplinary team; at the interface between mathematics, engineering, and eco-geohydrology.

You will be based at Faculty of Engineering, University of Nottingham, work in close collaboration with School of Mathematical Sciences, and be affiliated with Environmental Fluid Mechanics and Geoprocesses (EFMG) research group, and GeoEnergy Research Centre (GERC). You will develop numerical tools for modelling the complex interplay of mechanical, ecological, and hydrological processes in natural porous media, and to increase our understanding of the dynamics of Peatland, and carbon sequestration within it. You will also be responsible for writing up their work to contribute to published outcomes.

You will have the opportunity to use your initiative and creativity to identify areas for research, present your works in international conferences, and develop and extend your research methods and portfolio.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	To build upon our previous works and develop novel mathematical and numerical techniques which will help expand our understanding the Peatland dynamics and apply them on practical setting.	60%
2	To plan and manage your own research activity and resolve problems, if required, in meeting research objectives and deadlines.	10%
3	To write up research work for publication in high-quality venues and contribute to its dissemination, resulting in successful research outputs.	20%
4	To be responsible for co-supervising Masters, and PhD projects and for teaching and training of junior/new group members.	5%
5	To build relationships with internal and external project members in order to exchange information, form relationships for collaboration, and identify potential sources for future funding and/or collaboration.	5%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> Outstanding numerical method, and programming skills with strong proficiency in programming languages such as C++/Fortran/Matlab/Python Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. Presentation skills. Ability to work well in a team and proven experience with industrial collaboration. Ability to work to deadlines and prioritise tasks. Creativity and analytical thinking skills to carry out as well as manage innovative and high quality research 	<ul style="list-style-type: none"> Ability to foster a research culture and commitment to learn in others. Creativity and leadership in problem solving. Project management skills/experience
Knowledge and experience	<ul style="list-style-type: none"> Strong background and experience in computational mechanics, applied mathematics, numerical methods, and scientific computing. Experience in developing Finite Element or Finite Volume based numerical methods. Evidence of using research methodologies and techniques to work within research area 	<ul style="list-style-type: none"> Experience working in fields related to porous media Experience working in fields related to Peatland High Quality publications in peer reviewed journals
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> Hold or be shortly due to obtain a PhD, or equivalent in subjects related to some of the following: applied mathematics, numerical methods, computational mechanics/fluid dynamics. 	



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

