



## Digital / Mathematical Modelling Consultant Vacancies

This is an opportunity for Digital / Mathematical Modelling Interns to join our growing team.

### 1 About MCM

MCM Environmental Services Ltd is a small and highly successful employee-owned consultancy supporting clients in the international nuclear sector. Dealing with the legacy of the nuclear industry is one of the most significant global scientific, technical, and engineering challenges. This is fundamental in supporting countries to protect the environment, achieve energy security and mitigate climate change. MCM is an innovative supplier of scientific consultancy and engineering services to the UK and overseas radioactive waste management organisations. We support our clients achieve safe, cost-effective, innovative, and timely management of radioactive waste.

Our team has a wide breadth of internationally respected expertise, providing consultancy, and modelling to underpin science, technology, and engineering to allow the safe management and disposal of radioactive waste. Our reputation for safely delivering high quality projects on time and on budget is well recognised. We have proven expertise in managing and integrating complex projects, a long-standing UK presence, strong relationships with our clients and a long track record of collaborative working with many leading businesses.

This is an opportunity to experience a real variety of projects, working with a wide range of colleagues and clients. You'll work closely with the rest of our team and clients to achieve outstanding results in a stimulating and quality-driven environment.





## 2 Key Responsibilities

Within a collaborative and supportive team, you will help us win and deliver an exciting and diverse range of desk-based consultancy projects undertaken for our customers in the UK and overseas. Some of your tasks could include:

- Application of Geographic Information System (GIS) tools to support site development
- Digital engineering/Building Information Modelling (BIM)
- Geological, hydrogeological, and groundwater flow and transport modelling,
- Probabilistic safety assessments, Site Wide Environmental Safety Case, Environmental Safety Case, and Environmental Impact Assessments
- Thermal modelling, Thermo-hydro-mechanical coupled modelling, geochemical, geotechnical modelling, or other forms of simple and complex coupled modelling used to underpin the safety of a future geological disposal facility in the UK.
- The use of scripting languages to manipulate data (e.g., Python)
- Development of legacy open-source software
- Development of high-performance computing (HPC) solutions
- Application of emerging computing technologies

## 3 Role Requirements

### 3.1 Key Competencies

You will need to be:

- Working towards a PhD in Applied Mathematics, Computational Physics or Theoretical / Computational Chemistry.
- Willing to learn. Well-developed software skills are essential, including potential experience with HPC.
- Eager to develop your experience of one or more of the technical areas identified above. This could include application and development of a range of software tools such as Revit, AutoCAD, ArcGIS, PFLOTRAN, Comsol, GoldSim, OpenGeoSys, or other similar software.

### 3.2 Skills and behaviours

It is essential that you have:

- Analytical skills with the ability to identify, develop and implement solutions
- Excellent writing skills to communicate clearly and without errors - accuracy and attention to detail are vital
- The ability to work within a team
- The ability to coordinate and prioritise activities to ensure delivery of agreed targets
- The ability to work pro-actively
- A high level of computer literacy, including familiarity with the full Microsoft Office software suite
- A flexible approach, including the ability to identify when help is needed by others and a drive to support colleagues as necessary



#### **4 Working at MCM**

You will be based in our office at Harwell at the Science & Technology Facilities Council (STFC) site in Oxfordshire and will be part of a multi-disciplinary team to deliver a range of projects on behalf of customers such as Nuclear Waste Services, the Nuclear Decommissioning Authority, Magnox Ltd, and Sellafield Ltd, as well as international waste management organisations. Our presence at STFC allows us closely to collaborate with some of the leading scientific, technical, and computational communities and facilities in the UK.

#### **5 Wellbeing and work life balance**

We offer flexible approaches to work, including blended home-office working, so you can balance your time and commitments in a way that works for both you and MCM.

We're happy to discuss flexible working arrangements. Wellbeing is at the core of our culture and allows our employees to flourish and to achieve their full potential.

#### **6 Diversity, Equality, and Inclusion**

At MCM we put equality, diversity, and inclusion at the heart of our business, seeking to promote fair employment procedures and practices to ensure equal opportunities for all. We encourage individual expression in our workplace and are committed to creating an inclusive environment where everyone feels they can contribute.

We consider all applications on an individual's alignment with the required qualifications, knowledge and experience outlined in this job advert, without regard to any of the protected characteristics. So that we can provide everyone with a fair selection, assessment, and employment experience, please make us aware if you have any physical or neurodiverse condition for which appropriate reasonable adjustments can be made by us.

If you would prefer to apply in a different format or would like us to make reasonable adjustments to enable you to apply or attend an interview, please contact us at [info@mcmenvironmental.co.uk](mailto:info@mcmenvironmental.co.uk) and we will talk to you about how we can assist.

#### **7 Vetting**

Successful candidates will be asked to complete a Baseline Personnel Security Standard (BPSS) Pre-Employment check and will be required to undergo various checks including Identity, Right to Work, Employment/Education History and Criminal Record. If you are unable to meet this and any associated criteria, then your employment may be delayed, or your application rejected.

#### **8 Remuneration Package**

We offer the following remuneration package:

- **Contract Type** - 3 months / 12 months (starting in June 2023)
- **Hours of Work** - Full time is 36 hours per week. Part time roles will be considered.
- **Salary** - Competitive base salary
- **Benefits** -
  - 25 days' annual leave (adjusted pro rata)
  - Company pension scheme
  - Professional subscriptions reimbursement.



## **9 Application Process**

1. Email your CV and a covering letter stating why you are interested in this role and why you would satisfy the role requirements in Sections 3.1 and 3.2 above to [info@mcmenvironmental.co.uk](mailto:info@mcmenvironmental.co.uk)
2. We aim to review and respond to you within 2 weeks
3. If shortlisted, you will be invited to a formal interview by video conference (Microsoft Teams) or at our Harwell office.