

Candidate Information

Position:	Research Fellow
School/Department:	Chemistry and Chemical Engineering
Reference:	20/108350
Closing Date:	Monday 28 September 2020
Salary:	£33,797 to £35,845 per annum
Anticipated Interview Date:	Wednesday 7 October 2020
Duration:	6 months or until 31 March 2021

JOB PURPOSE:

The Dingwall lab (Chemistry and Chemical Engineering), in collaboration with the Mai lab (Computer Science), are recruiting a post-doctoral researcher to be an active member of the research team and assist in the development of active learning techniques for reaction prediction using kinetic data. The successful candidate will collect experimental kinetic data on a model reaction system, liaising with the team in Computer Science to direct their experimentation. The post holder will be responsible for the planning and delivery of all experimental research activity within the project so that the overall research objectives of the project are met. The post is funded for 6 months part time (85% FTE) by Queen's University Belfast. The post is available from 31st August 2020 or as soon as possible thereafter.

MAJOR DUTIES:

1. To undertake research under supervision within the research project and as a member of the research team.
2. Perform kinetic studies on synthetic laboratory-scale reactions via reaction sampling and off-line analysis (GC, HPLC, NMR as appropriate). Create a database of experimental kinetic data for later analysis using machine learning techniques.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
5. Prepare in consultation with supervisor, material for publication in peer-reviewed journals and presentations at international conferences.
6. Assist grant holder in the preparation of funding proposals and applications to external bodies.
7. Carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
8. To carry out occasional supervision of more junior colleagues and students and in the preparation of written reports, theses, and journal manuscripts.

Planning and Organising:

1. Plan for the use of research resources, laboratories, and workshops where appropriate.
2. Plan own day-to day activity within framework of the agreed research programme.
3. Plan in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
4. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with the PI and Co-I and fellow researchers regarding the progress of the project.

2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. Maintain and develop external networks to ensure successful dissemination of the project findings.

ESSENTIAL CRITERIA:

1. Have a degree in Chemistry or a related discipline (minimum standard 2:1).
2. Have or be about to obtain a PhD in Chemistry or a related discipline.
3. At least three years research experience involving physical organic chemistry, synthetic organic chemistry, or related disciplines.
4. Proven experience of applying core analytical techniques (NMR, GC, HPLC).
5. Ability to contribute to broader management and administrative processes.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Ability to communicate complex information clearly.
8. Ability to build contacts and participate in internal and external networks.
9. Demonstrable intellectual ability.
10. Ability to assess and organise resources.

DESIRABLE CRITERIA:

1. Some knowledge of standard laboratory kinetic techniques or modern kinetic analysis techniques such as RPKA or VTNA.
2. Previous experience as a Research Fellow.
3. Ability to build contacts and participate in internal and external networks.