

Candidate Information

Position:	Research Fellow
School/Department:	School of Chemistry and Chemical Engineering
Reference:	19/107773
Closing Date:	Wednesday 2 October 2019
Salary:	£33,797 to £40,322 per annum
Anticipated Interview Date:	Monday 14 October 2019
Duration:	Available until 31 October 2020

JOB PURPOSE:

The position is to undertake research in Catalytic Gas-to-Liquid Process for the Valorisation of CO from Biogas.

MAJOR DUTIES:

1. To prepare heterogeneous catalysts and evaluate these systems for conversion of carbon monoxide and hydrogen to liquid products.
2. To work with the collaborators within the consortium.
3. Participate in the development of customer discovery and evaluation of the current market demand for carbon-neutral fuels and derivatives.
4. Normal duties will apply, including the preparation of reports and research/journal papers and assisting in supervision of PhD students.
5. Develop and plan an area of personal research and expertise, and/or undertake research under supervision within a specific research project or as a member of a research team.
6. Design, develop and refine experimental apparatus, field research or experiments in order to obtain reliable data.
7. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
8. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
9. Prepare, often in consultation with supervisor, material for publication in national and international journals and presentations at international conferences and tradeshows.
10. Assist grant holder in the preparation of funding proposals and applications to external bodies.
11. 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.
12. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
13. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-4 weeks in advance and contribute to research group planning.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan up to 6-months in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
5. Coordinate and liaise with other members of the research group and partners 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 colleagues and students.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. Join external networks to share information and ideas.
4. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Have or be about to obtain a relevant PhD in Chemistry, Chemical Engineering or a related subject.
2. BSc (Hons) or equivalent in Chemistry, Engineering or related subject.
3. At least 3 years relevant research experience.
4. Recent and relevant experimental experience in heterogeneous catalysis.
5. Ability to prepare journal and conference papers.
6. Ability to design, develop and refine experimental apparatus, field research or experiments in order to obtain reliable data.
7. Be prepared to supervise and interact with PhD students.
8. Ability to carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
9. Demonstrate the ability to plan for specific aspects of research programmes. Timescales range from 1-4 weeks in advance and contribute to research group planning.
10. Ability to communicate complex information clearly.
11. Ability to work build contacts and participate in internal and external networks.
12. Ability to work effectively within a team, to include industrial partners.
13. Demonstrable intellectual ability.
14. Ability to assess and organise resources.
15. Willingness to travel and work in other locations in the UK and Europe.

DESIRABLE CRITERIA:

1. Experimental experience in hydrogenations reactions.
2. Experience in coding and modelling development.
3. Publication record commensurate with stage of career.
4. Ability to contribute to broader management and administrative processes.
5. Ability to contribute to the School's research team's outreach programme by links with industry and community groups etc.

ADDITIONAL INFORMATION:

The project will be undertaken within the multi-disciplinary catalysis cluster at QUB and is funded by Invest Northern Ireland.

This is a unique opportunity for a dynamic and ambitious catalytic researcher with experience in the preparation and testing of heterogeneous catalysts at postgraduate or postdoctoral level to work in a leading centre of catalysis. The successful candidate will prepare heterogeneous catalysts and evaluate these systems for the catalytic conversion of carbon monoxide and hydrogen to liquid products, BTL (Biomass-To-Liquid) process.

In addition, the researcher will work on the design and development of novel reactor configuration for the synthesis of light olefins, the building block of a range of products such as polymers, fuels and detergents of great economic and environmental benefits over traditional production methods. Furthermore, he will conduct a techno-economic assessment of the small-scale biogas-to-liquid plant.

The successful candidate will have the opportunity to work within a multi-disciplinary team of scientists, chemists and engineers from academia and industry.

We are offering generous terms and conditions of employment, a wide range of benefits and facilities, in a family friendly working environment. Belfast is one of Europe's most friendly and vibrant regional capitals. With the lowest cost of living in the UK (Mercer.com 2014), Belfast offers a variety of cultural, sporting, educational and social opportunities.