

## Candidate Information

<b>Position:</b>	Research Fellow - Bioenergy: Economics and Sustainability Modelling
<b>School/Department:</b>	School of Chemistry and Chemical Engineering
<b>Reference:</b>	19/108032
<b>Closing Date:</b>	Monday 13 January 2020
<b>Salary:</b>	£33,797 to £40,322 per annum
<b>Anticipated Interview Date:</b>	Thursday 30 January 2020
<b>Duration:</b>	Available until 30 June 2021

### JOB PURPOSE:

The postholder will be an integral part of the Bioenergy Group in the Bryden Centre at Queen's University Belfast. Key duties will involve the planning and delivery of the Centre's objectives which include expanding interdisciplinary connections, building the research portfolio both in terms of income and high-quality publications, creating impact through engagement with industry and local communities and supporting wider public engagement initiatives. In particular, the postholder will deliver and support projects to model the integration of renewable energy technologies into the supply of carbon-based biofuels including establishing the sustainability of approach and economic viability.

### MAJOR DUTIES:

1. Develop and execute research deliverables in accordance with the Bryden Centre's research portfolio with emphasis on both numerical and economic modelling of sustainable energy systems and their integration to create sustainable and economic pathways to displace fossil fuels from regional and national economies.
2. Design, develop and refine new cross cutting lines of research which expand the scope and expertise of the centre.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to the areas of research developed.
4. Present regular progress reports on research to members of the research centre or external audiences to disseminate and publicise research findings in close co-ordination with the industrial partners.
5. Support Bryden centre PhD students, including assessing and contributing to training requirements, providing advice as requested on their individual research projects and helping with the annual Bryden Centre summer school.
6. Prepare, in consultation with the project supervisors and other relevant people, material for publication in esteemed national and international journals and presentations at international conferences.
7. Assist the grant holders in the preparation of economic models, business cases and research proposals to deliver additional funding to the Bryden Centre from applications to external bodies including industry.
8. Carry out routine administrative tasks associated with the research centre to ensure that deliverables are completed on time and within budget. These might include organisation of project meetings and documentation, financial control and risk assessment of research activities.
9. Carry out occasional undergraduate supervision, demonstrating or lecturing duties associated with The Bryden Centre.
10. Read academic papers, journal and textbooks to keep abreast of developments in own specialism and related disciplines.
11. Travel to meetings and conferences in the UK, Ireland and elsewhere in the world deemed necessary to undertake the research and associated project work.

### Planning and Organising:

1. Plan and organise their research and work load with consideration to the main Bryden Centre priorities as directed by Professor Rooney and Dr Foley.
2. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research centre planning.
3. Plan for the use of research resources, facilities and workshops where appropriate.
4. Plan own day-to day activity within framework of the agreed research programme.

5. Plan up to a year in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
6. 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 colleagues and students, building internal contacts and participating in internal networks for the exchange of information and to form relationships for future collaboration.
2. Develop network within own area of research in both academia and industry including joining external networks and committees to share information and collaborate.
3. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.
4. Liaise on a regular basis with colleagues and students, building internal contacts and participating in internal networks for the exchange of information and to form relationships for future collaboration.

**ESSENTIAL CRITERIA:**

1. Have a PhD or about to receive a PhD in Data Analysis, Economics, Process or Business Modelling or equivalent in engineering, a science related discipline, computer science or business management/economics related field
2. At least three years recent relevant research experience.
3. Track record of publication appropriate to career stage.
4. Experience in modelling one or more of energy systems, power networks, bioenergy or equivalent from either an economic, process yield or sustainability perspective.
5. Experience of working with commercial companies.
6. Numerical modelling experience and a knowledge of current approaches to modelling renewable energy systems, their integration and economics.
7. Evidence of contributing to the broader management and administrative processes in current research group.
8. Evidence of outreach as demonstrated by links with industry, institutes, community groups etc.
9. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
10. Good software skills e.g. MS Office, programming tools.
11. Ability to communicate complex information clearly.
12. Ability to build contacts and participate in internal and external networks.
13. Good time keeping, interpersonal and communications skills.
14. Ability to work to deadlines, manage work load and complete tasks and take initiative to complete tasks effectively.
15. Demonstrable intellectual ability.
16. Ability to assess and organise resources.

**DESIRABLE CRITERIA:**

1. Relevant economics/business modelling/process modelling qualifications.
2. Experience of modelling the interaction of complex systems.
3. Supervision of undergraduate students on project level.
4. Experience of working on an industry lead project or project with considerable industry input, working in a multi-institutional, interdisciplinary and international team