

Job Details

Position:	Research Fellow
School/Department:	School of Chemistry and Chemical Engineering
Reference:	17/105325
Closing Date:	Monday 3 April 2017
Salary:	£32,004 - £33,943 per annum
Anticipated Interview Date:	Week commencing Monday 10 April 2017
Duration:	Available until 31 August 2018

JOB PURPOSE:

To work on an industry-focused research project that relates to the development of an algal bioreactor system. Specifically, this post-doctoral position will focus on understanding how abiotic environmental parameters influence algal physiology. The algal physiological response over a 12-month period will be measured in terms of its biomass productivity, oil production of nutritional lipids and nutrient uptake.

MAJOR DUTIES:

1. Experience of 'green' separation technologies (e.g. supercritical CO₂, ionic liquids) and their application in the extraction of compounds from terrestrial/marine plants.
2. Knowledge and experience of analytical techniques including NMR, HPLC, GC-MS, ICP-MS, column chromatography and CHN analysis.
3. Develop and execute new analytical methods/protocols to improve the characterization of compounds from natural biomass.
4. To plan and conduct experiments relevant to the research and development of algal-based commercial products.
5. To correlate mass balance data generated from the algal bioreactor to assess the efficiency of the system.
6. Liaise on a regular basis with industrial project partners and regularly present (oral and written) reports to industrial partners or to external audiences to disseminate and publicise research findings.
7. Carry out routine administrative tasks associated with the research project, e.g. organisation of Industrial partner meetings.
8. Prepare material for publication in national and international journals and presentations at international conferences.
9. Assist grant holder in the preparation of funding proposals and applications to external bodies.
10. 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 1-3 months 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 posters, presentations and/or papers or conferences.
5. Coordinate and liaise with other members of the research group and Industrial 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 PG/UG 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

ESSENTIAL CRITERIA:

1. PhD (have or about to obtain) in Chemistry, Chemical Engineering or a relevant engineering discipline.
2. Knowledge of 'green' separation technologies (e.g. supercritical CO₂, ionic liquids).
3. At least 3-years recent relevant research experience in a range of techniques relevant to biomass separation and characterisation.
4. Experience working with Industry and prior experience working on industrial research projects.
5. Ability to communicate effectively, both verbally and in writing.
6. Practical problem-solving skills and independence of thought are required.
7. Ability to present scientific arguments and data in a clear, concise and confident manner in reports, journals and oral presentations.
8. Ability to meet deadlines and good project planning skills.
9. Experience of working in a disciplined manner within a team environment.

DESIRABLE CRITERIA:

1. PhD (have or about to obtain) in Chemistry
2. Knowledge of established/new analytical methods/techniques for characterisation of natural biomass.
3. Experience in proposal writing and research program development.
4. Experience in HPLC method development and validation for fatty acids.
5. Experience in supervision of postgraduate and final year undergraduate students.
6. A track record of high quality publications, appropriate to stage in career.