



| | | | |
|---------------------------|---|-----------------------------|---|
| Job title | Research Associate/Fellow in Chemical Engineering | Job family and level | Research and Teaching Level 4 Training Grade/ Level 4 |
| School/ Department | Faculty of Engineering – Low Carbon Energy and Resource Technologies Research Group (LCERT) | Location | University Park Campus |

Purpose of role

This role will support a multidisciplinary team working in microwave processing for the valorisation of biomass for the production of biochemicals and biopolymers. Projects include the extraction and testing of pectins from a range of food industry co-products and the production of bio-oil from forestry waste for the production of novel biochemical and bioplastics. The successful applicant will manage and contribute towards the delivery of specific research tasks and work closely with both colleagues from the Faculty of Engineering, external academic collaborators, and industrial partners and stakeholders. The role holder will also be responsible for supporting undergraduate and postgraduate students within this research area, and be expected to contribute to laboratory safety management.

| | Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role) | % time per year |
|---|--|------------------------|
| 1 | To deliver research as part of a collaborative team and to ensure that specific research objectives are completed. This research will include designing and operating laboratory scale microwave experiments and detailed chemical and functional analysis of the products of the microwave processes. | 70% |
| 2 | To write research papers for submission to journals and conferences and prepare progress reports on the results of research. | 5% |
| 3 | To present the results of research at project progress meetings and at conferences and workshops. | 5% |
| 4 | To assist in the co-ordination of the research and related administrative tasks, including liaising with external project collaborators | 5% |
| 5 | To provide assistance in laboratory management | 5% |
| 6 | To provide assistance with supervision of undergraduate and postgraduate students | 5% |
| 7 | To participate in the development of new funding proposals | 5% |

Person specification

| | Essential | Desirable |
|--|---|---|
| Skills | <ul style="list-style-type: none"> • Ability to plan and conduct high quality research • Excellent verbal and written communication skills • Expertise in functional and analytical characterisation of polysaccharides | <ul style="list-style-type: none"> • Materials characterisation (e.g. thermogravimetric analysis, dielectric property measurements, differential scanning calorimetry) |
| Knowledge and experience | <ul style="list-style-type: none"> • Experience of laboratory health and safety procedures and regulations • Experience in the microwave processing of biomass • Experience of characterisation of biomass and biochemicals (e.g. HPLC, GC/MS, UV-vis) • Record of research excellence in relevant area as evidenced by high quality publications | <ul style="list-style-type: none"> • Experience working as part of a multidisciplinary team and interacting with external collaborators • Evidence of research excellence in relevant area through e.g. conference presentations and awards |
| Qualifications, certification and training (relevant to role) | <ul style="list-style-type: none"> • PhD, EngD or equivalent in chemical engineering (or close to completion) | <ul style="list-style-type: none"> • First degree in chemical engineering or a closely related discipline. |



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
- Taking ownership** Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
- Forward thinking** Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
- Professional pride** Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
- Always inclusive** Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others



