

Candidate Information

Position:	Shaping/Formulation Specialist – KTP Associate – MOF Technologies
School/Department:	KTP and Business Networks
Reference:	19/107863
Closing Date:	Monday 18 November 2019
Salary:	£28,000 to £34,000 per annum. One of the key KTP benefits for graduates is access to a £8,250 training and travel budget over the 24 month project.
Anticipated Interview Date:	Monday 2 December 2019
Duration:	24 months

Job Purpose

The overall project will be in the formulation and shaping of metal organic frameworks (MOFs). The scope of this partnership is to investigate a number of size enlargement techniques to increase the number of shaped MOF products that the Industrial Partner can provide.

Main Activities and Responsibilities

MOF Technologies is a Belfast based SME specialising in the manufacture & supply of a new class of adsorbent called metal-organic frameworks (MOF). MOF Technologies has established itself as a market leader in the supply of MOF using our patented manufacturing process. At present, we are 1 of 2 commercial suppliers of MOF in the world. We export to over 26 countries & partner with an array large multinational organisations in a wide range of industries. In 2016, we became the world's first commercial supplier of a MOF for controlling the freshness of fruit.

We wish to recruit a highly skilled and motivated Chemical Engineering or Chemistry post-graduate to work in MOF Technologies in collaboration with Queen's University Belfast. Through this Knowledge Transfer Partnership, MOF Technologies seeks to develop undertake an exciting project to investigate the formulation and shaping of metal organic frameworks (MOFs). The scope of this partnership is to investigate a number of size enlargement techniques to increase the number of shaped MOF products that the company can provide. The post holder will be based in MOF Technologies, Belfast.

Under the guidance of the company and academic supervisors the KTP Associate will provide the expertise necessary to will deliver the following key integrated project phases:

1. Identification of suitable binders for MOF size enlargement. to the different techniques that can be used for producing the shaped MOF products.
2. Process Understanding
3. Production of Shaped MOFs using granulation
4. Production of Shaped MOFs using Extrusion
5. Production of Shaped MOFs via dry Compaction

Planning and Organising

1. Manage and coordinate the items of work as laid out in the project plan (individual work plan will be provided by Supervisors).
2. Plan day-to-day activity within the framework of the agreed work plan.
3. Contribute to the planning and management of the project, approximately 3-6 months in advance.
4. Ensure that all training and development activity is scheduled to ensure that progress on the work plan objectives is not interrupted or delayed.

Resource Management and Responsibilities

1. Plan and manage day-to-day resources to ensure the project runs to time and on budget.
2. Coordinate and obtain approval for planned expenditure/allocation of resources with the Management Committee and Steering Group.
3. Carry out supervision of placement students or other staff members as required.

4. Monitor travel and development budgets and produce a Personal Development Plan which will ensure best use of financial resources.
5. Attend training modules (mandatory and additional job-specific training). This may be local, national and international.
6. Perform any other additional duties as agreed by the Local Management Committee and Steering Groups to contribute to the development of the company, the university and the Associate.

Internal and External Relationships

1. Present regular progress reports to members of the Steering and Management Groups and to external audiences.
2. Liaise with company staff on a daily basis. Contribute to training of staff in the company and university as required.
3. Build relationships with both company and university staff to ensure effective working practices are established.
4. Attend and contribute to any appropriate meetings, both in the company and the university as required.
5. Establish contacts with additional groups and organisations (other KTP Associates, other university departments, other industrial contacts, and Innovate UK) as required to develop knowledge and understanding and form relationships for future collaboration.
6. Act as an Ambassador for the Knowledge Transfer Partnership Scheme.

Additional Information

1. Knowledge Transfer Partnerships is a UK programme that enables businesses to work with universities to gain access to specialist knowledge and expertise and apply it within their organisation. Each Partnership recruits a Graduate to work in the company, implementing and embedding the latest research techniques. Guidance is provided by the academic and company supervisors to ensure that the objectives of the project are met. Although the scheme is aimed at recent graduates, any suitably qualified individual may apply.
2. Each KTP is a fully salaried job that lasts between twelve and thirty six months, providing the graduate with an opportunity to fast track a career in industry. Each KTP Associate has a training and development budget and a travel budget. This funding provides opportunities for job-specific training, attending and presenting at conferences, visiting trade shows, customers and suppliers etc. Two, one week residential management training modules are also provided as part of the package.
3. This partnership received financial support from the Knowledge Transfer Partnerships (KTP) programme. KTP aims to help businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. This successful Knowledge Transfer Partnership project, funded by UK Research and Innovation through Innovate UK, is part of the government's Industrial Strategy.
More details are available at www.ktpjobsni.com.

Essential Criteria

1. Hold at least a Masters degree in Chemical Engineering, Chemistry or a closely related discipline.
2. Two years' relevant work or research experience to include:
 - o Experience with analytical technique required to characterise porous materials; Optical spectroscopy, IR spectroscopy, TGA and DSC, XRD and BET analysis.
 - o Experience in analysing the textural properties of porous materials; compressive strength, attrition and densities.
3. Ability to design and to establish experimental set-ups.
4. High quality publication record.
5. Good oral written and presentation skills.
6. High level of IT skills.
7. Ability to think logically, create solutions and make informed decisions.
8. Well organised, attention to detail and ability to meet tight deadlines.
9. An interest in staying with the Company. (Associates are normally invited to apply for permanent positions).
10. Ability to take part in Associate management courses (requiring two one-week periods in England).
11. Willing/able to travel throughout the UK and Ireland and abroad, as necessary.

Desirable Criteria

1. Hold a PhD in a relevant area.
2. Four years relevant work or research experience.
3. Experience of material characterisation techniques relevant such as SEM, Porosimetry and Laser diffraction.
4. Experience in preparing SOPs.
5. Experience in working in a commercial laboratory.
6. Experience with size enlargement and shaping techniques such as high shear granulation, extrusion and tableting.

7. Knowledge of polymer chemistry and properties.
8. Ability to deliver training and follow-up support to operatives.
9. Ability to influence people effectively.
10. Tenacious and committed to achieving goals.