



## Candidate Information

<b>Position:</b>	Chemical Engineer – KTP Associate – SiSaf Ltd
<b>School/Department:</b>	KTP and Business Networks
<b>Reference:</b>	19/108051
<b>Closing Date:</b>	Monday 3 February 2020
<b>Salary:</b>	£26,000 to £35,000 One of the key KTP benefits for graduates is access to a £9,500 training and travel budget over the 21 month project.
<b>Anticipated Interview Date:</b>	Friday 14 February 2020
<b>Duration:</b>	21 months

### Job Purpose:

The project will develop a continuous production chemical engineering process for a proprietary nanoparticle drug delivery system.

### Main Activities and Responsibilities:

We wish to recruit a highly skilled and motivated graduate to work in SiSaf in collaboration with Queen's University Belfast for 21 months. Through this Knowledge Transfer Partnership, SiSaf seeks to develop a continuous production chemical engineering process for a proprietary nanoparticle drug delivery system. The postholder will develop both industry and academic skills in biotechnology and chemical engineering. The postholder will spend time both at SiSaf in Belfast (The Innovation Centre, Catalyst Inc, Titanic Quarter) and will conduct laboratory work within Queen's University Belfast School of Chemistry & Chemical Engineering.

The programme of work will consist of the following activities:

- The associate will develop a detailed work activity plan and communicate effectively between academic and industry partner (this will include attending and presenting written and powerpoint updates at regular project meetings).
- Associate development in biotechnology, drug formulation science and manufacture.
- Review functional features of the nanotechnology platform, current batch process and establish relationship between key process parameters.
- Benchmark current system and identify key steps in transforming batch processes to continuous processes.
- Design appropriate process equipment capable of handling solid – liquid suspensions.
- Develop a continuous and modular process for pre-processing of raw ingredients.
- Integrate process steps to establish modular and continuous process and assess stability.
- Develop scale – up and numbering – up strategies and design basis.
- Establish a bench top continuous and modular system for manufacturing the nanotechnology platform.
- Develop an understanding of commercial exploitation, regulatory, quality, costings and market intelligence.
- Embed new chemical engineering knowledge in the company.
- Dissemination of the findings (preparation of written reports, PowerPoint slides and presentation of work).

### 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.
4. As members of University staff, KTP Associates can join the University pension scheme, gain access to University resources such as the Library and sports facilities.

More details are available at [www.ktpjobsni.com](http://www.ktpjobsni.com)

**Essential Criteria:**

1. Hold a PhD degree in Chemical Engineering or a closely related subject.
2. Three years relevant work or research experience\* to include:
  - Recent and relevant experience of process intensification and solid-liquid systems at postgraduate or postdoctoral level.
  - Recent and relevant experience of developing computational models and process equipment for multiphase systems.
  - Recent and relevant experience of working with fluidic devices.

\*can include relevant experience gained through a higher degree, student project, or placement.

3. Ability to design and to establish experimental set-ups.
4. High quality publication record commensurate with stage of career.
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. A high level of numeracy and the ability to interpret data.
9. Ability to work effectively as a member of a group.
10. Well organised, attention to detail and ability to meet tight deadlines.
11. An interest in staying with the Company. (Associates are normally invited to apply for permanent positions).
12. Ability to take part in Associate management courses (requiring two one-week periods in England).
13. Willing/able to travel throughout the UK and Ireland and abroad, as necessary.

**Desirable Criteria:**

1. At least 1 year relevant work experience carried out after obtaining PhD.

2. Experience of designing and setting up experiments, particularly involving continuous solid – liquid systems/ crystallisation.
3. Experience of characterising nano-particles.
4. Experience of working in a multi-cultural team involving industries & academia.
5. Experience in chemical analytical techniques such as HPLC.
6. Ability to deliver training and follow-up support to operatives.
7. Ability to influence people effectively.
8. Tenacious and committed to achieving goals.