

## Research Associate in Nanocomposite Coatings (KTP Associate)

Job Ref: REQ171175

A KTP (Knowledge Transfer Partnership) is a collaboration between a university and company, jointly funded by the Company and Innovate UK.

This KTP is a 24 month project between Loughborough University and Trelleborg Applied Technologies Ltd. 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.

**The KTP Associate will be based primarily at the Company premises in Retford but will spend time at Loughborough University**

### Introduction to the company

Trelleborg provides superior engineered material solutions for the most challenging applications from space to seafloor - with a long-standing commitment to the development of innovative material solutions

Trelleborg Applied Technologies main revenue activities include :

- Defence
- Industrial
- Rail
- Seismic
- Engineered Products

<http://www.trelleborg.com/en/applied-technologies>

### School/Department summary

Our work in the Materials Department is focused on the engineering design, processing and use of new and existing materials. We have state-of-the-art, world-class facilities for use in materials synthesis, processing and characterisation, which support our research and teaching. In fact, the Loughborough Materials Characterisation Centre is considered to be one of the best facilities of its kind in Europe.

### Project outline

This is a 24 month KTP project between Loughborough University and Trelleborg Applied Technologies Ltd to deliver a novel, lightweight, hybrid polymeric-ceramic coating technology for use on a range of structures. The aim will be to develop a coating which will give these structures a tailored electromagnetic signature which is invisible to S band radar.

## Job Description

### Job Grade: Other

### Job Purpose

The KTP Associate will:

- Undertake literature reviews and market analyses to establish Trelleborg's existing position in the market
- Undertake benchmarking of existing materials
- Prepare and test composite structures
- Carry out optimisation of process mixing parameters
- Document mechanical properties and manufacturing processes
- Determine ageing performance of optimised materials
- Produce a viable nanocomposite coating system and plan for industrial implementation
- Produce high quality documentation and industry standard reports/papers throughout

### Job Duties

- Carry out the KTP project tasks and deliver the outcomes as outlined in the project plan.
- Manage the project and disseminate the findings to the project team.
- Undertake KTP management training, as well as other courses as deemed necessary.
- Write R&D reports, and present these at the Local Management Committee (LMC) meetings, as well as at national conferences and symposia with other members of the project team.
- Prepare research papers for publication in highly acclaimed learned journals, in line with the expected scholarly activities of the University Research Staff, but in accordance to the commercial sensitivity of collaborating companies.
- Travel to Company clientele and to various other locations within the UK, and possibly overseas, as required.
- To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

### Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Previous KTP associates or employees of Trelleborg are not eligible to apply for this KTP

### Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

### **Organisational Responsibility**

Reports to the KTP Lead Academic

## Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

- 1 – Application
- 2 – Presentation
- 3 – Interview – X2

### Essential Criteria

Area	Criteria	Stage
Experience	Experience of conducting a significant experimental-based project within either a university or company setting;	1,2,3
	Experience of following established health and safety procedures;	1,3
	Experience of operating polymer mixing equipment;	1,3
Skills and abilities	Excellent technical writing skills	1,3
	The ability to assimilate large amounts of data and to be able to condense this information down into a short Technical Report which could be easily understood by a competent reader	1,3
	Excellent presentation / communication skills,	1,2,3
	Ability to work both independently, without supervision, and, as part of a team.	1,3
	Ability to communicate with a wide range of academic and commercial personnel	1,2,3
	Willingness to undertake KTP training modules and other training as appropriate	3
Training		
Qualifications	Degree, at 2:1 level or above, in composites, polymer chemistry, or a similar materials-related area.	1
Other	To observe the University Equal Opportunities policies at all times.	3

### Desirable Criteria

Area	Criteria	Stage
Experience	Expertise in nano-particulate and polymer and elastomer coatings materials is desirable	1
	Experience of team and project working in a multi-disciplinary environment	1,3
Skills and abilities	Licensed to drive in the UK	1,3
Qualifications	Masters in composites, polymers chemistry or similar	1

## Conditions of Service

PLEASE NOTE – WE ARE UNABLE TO OFFER A CERTIFICATE OF SPONSORSHIP FOR THIS POSITION.

The position is FULL TIME and FIXED TERM for 24 months. Salary will be between £27,000 and £31,000 per annum, at a starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff/Operational and Administrative staff, details of which can be found [here](#).

We strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>

## Informal Enquiries

Informal enquiries should be made to Prof Gary Critchlow, Professor of Surface & Interface Science by email at [g.w.critchlow@lboro.ac.uk](mailto:g.w.critchlow@lboro.ac.uk) or by telephone on 01509 222949

## Applications

The closing date for receipt of applications is **2 January 2018**. Interviews will be held week commencing 15 January 2018.