



Materials Engineer (KTP Associate)

RGU, School of Engineering

Job Summary

The Robert Gordon University and Rubberatkins Ltd are seeking to recruit a Materials Engineer to work on a 24 months Knowledge Transfer Partnership (KTP) to develop innovative processes for the materials selection and manufacturing of high-performance elastomer products for use in the oil and gas industry. The position will be based at Rubberatkins Ltd, an Aberdeen based company who develop and supply rubber elastomeric sealing components and Engineering plastics for use in the Oil and Gas industry and supply a number of products to the Aerospace and Petrochemical industry. The Associate will work in close partnership with staff from the School of Engineering at Robert Gordon University during the project.

This 24-month fixed term post is funded through the government sponsored Knowledge Transfer Partnership (KTP). KTP supports partnerships between business and universities or research organisations, placing graduates (Materials Engineer (KTP Associate)) to work on innovative high-profile projects. The Materials Engineer (KTP Associate) benefits from a tax-free personal development budget (allowing them to participate in courses / professional qualifications) of £4,000 and will be responsible for other budgets including, travel and consumables.

The Centre for Advanced Engineering Materials primary focus is addressing industrial challenges in materials engineering and sciences.

Your skills will be aligned to the development of material behaviours; product design and manufacturing using Project's selected materials and experimentally validate and verify structural behaviour using material data mined. You will be capable of determining the effect of geometric properties requirements to the parts pass/fail history since the part geometry requires specific constraints on the part during the manufacturing stage.

The position is ideal for an experienced engineer or chemist in materials testing and characterisation, numerical methods as well as stochastic modelling in composite structures. The ideal candidate will hold a PhD in Materials Engineering, Materials Science, Polymer Technology, Nanotechnology or relevant Engineering or Chemistry discipline. For an informal discussion about the post please contact Prof. James Njuguna, j.njuguna@rgu.ac.uk, Tel. +44 (0) 1224 262304

This post is subject to a Disclosure Scotland check. For more information visit:
<https://www.mygov.scot/standard-disclosure>

Closing Date: 01 October 2019

Job Description

RESPONSIBLE TO: When working at Rubberatkins Ltd premises the KTP Associate will report to and take direction from Senior R&D Engineer, Mr Ryan Nish, and when working at Robert Gordon University report to and take direction from Professor James Njuguna.

RESPONSIBLE FOR: No supervisory responsibilities.

PURPOSE OF POST:

To take a leading role in developing a capability to characterise the extrusion of elastomers at the nano-scale structural level. To transfer knowledge of material engineering into Rubberatkins Ltd. To develop the relevant technical and personal skills (verbal and written) to deliver the requirements of an increasing responsibility and experience level.

PRINCIPAL DUTIES:

To carry out manufacturing and materials development for specified products.

To conduct mechanical testing and physio-chemical characterisation including thermal properties, X-ray diffraction, microscopy, spectroscopy, rheology and chromatography.

To conduct materials selection for specific products using informed decision making process.

To develop materials selection strategy.

To take a lead role in developing a capability to characterise the extrusion of elastomers at a nano-scale structural level

To drive new product design and development.

The maintenance of, adherence to and improvement of the company's quality systems and procedures, including but not restricted to continual ISO9001 compliance.

Develop support and actively encourage a culture of continual improvement by implementing improvement programmes that involve team members and other employees.

Foster an open and involving approach with all employees.

Encourage and develop team to support delivery of the project goals and objectives

Person Specification

ESSENTIAL REQUIREMENTS

Qualifications and Professional Requirements

PhD in Materials Engineering, Materials Science, Polymer Technology, Nanotechnology or a relevant Engineering or Chemistry discipline.

Knowledge and skills

Demonstrable interpersonal and communication skills.

Aware of research integrity and ethical issues including confidentiality.

Ability to write and publish high impact journal articles.

Ability to defend research outcomes at seminars or conferences and be comfortable with communicating results.

Possess the desire to learn and lead the commercial aspects of the project.

Proven knowledge in mechanical properties evaluation for elastomer and/or composite materials.

Well-developed project management and research organisational skills.

Possess the desire to learn and lead the commercial aspects of the project.

Experience

Demonstrable skill in application of statistical methods on data analysis such as design of experiments and Taguchi method on experimental data analysis.

Expertise in high-performance elastomer or thermoplastic composite materials.

Expertise in physio-chemical characterisation including thermal properties (DSC, TGA), X-ray diffraction, microscopy (SEM, TEM), spectroscopy, rheology and DMA.

Well-developed project management and research organisational skills.

DESIRABLE REQUIREMENTS

Knowledge and skills

Detailed elastomer product design, CAD and FEA skills.

Understanding of experimental design, design for manufacture, product selection and testing.

Knowledge or experience of polymer molecular simulations.

Ability to liaise with Engineers and Technicians to form part of a successful team

Experience

Manufacturing techniques experience in extrusion moulding and compression moulding

Tool design and failure analysis expertise.
Skilled in computer analytical techniques for testing results.

Salary: 30000.00 - 37000.00 GBP per Year

Position Type: Full Time , Fixed Term 24 Month 37.0 Hours per Week

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