

Polymer Engineer (KTP Associate)

Department	Mechanical and Aerospace Engineering (https://www.strath.ac.uk/engineering/mechanicalaerospaceengineering/) in association with RUA Medical Devices Ltd, Irvine (https://rualifesciences.com)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Transfer Partnership (KTP)	Reference No	398699
Reports To	Dr Mónica Oliveira, Strathclyde; Dr Liu Yang, Strathclyde; Matthew Litton, RUA	Grade:	RS79
Salary Range:	£27-34k depending on qualifications/experience plus £5,000 training and development budget	Contract Type:	Fixed Term (33 months)
FTE:	40 hours/week) Mon-Thu 8am-5pm; Fri 8am-2.30pm	Closing Date	13/02/2022

Job Advert

RUA Medical Devices is an experienced full-service medical device contract developer, contract manufacturer and implantable fabric specialist. It is part of the RUA Life Sciences group, formed in April 2020 when AorTech International plc acquired RUA Medical Devices Ltd to create a fully formed medical device business. RUA Life Sciences is the holding company of the group trading through four businesses (RUA Medical Devices Ltd, RUA Vascular Ltd, RUA Biomaterials Ltd, and RUA Structural Heart Ltd) all exploiting the group's Elast-Eon™ polymer technology. RUA Medical Devices Ltd has 32 FTE and generated turnover of £1m in 2020/21.

The University of Strathclyde has joined forces with RUA to develop a series of sophisticated new products, and we are seeking a highly motivated KTP Associate to work with us in this exciting new collaboration. The project is part of the Knowledge Transfer Partnership (KTP) programme. KTP projects are funded by UK Research and Innovation through Innovate UK. To find out how KTP works, and the vital role you will play if you successfully secure a KTP Associate position, please visit: www.ktpws.org.uk.

The KTP Associate will be an employee of the University of Strathclyde and will be supervised by engineering and chemistry academics but will spend most of their working time at the company's HQ and manufacturing facility in Irvine on the Clyde Coast. At the end of the KTP there is a real opportunity for a permanent position within the company.

A PhD in Chemical or Mechanical Engineering, Chemistry, Materials Science or a related discipline is required. Alternatively, a good honours degree with equivalent skills gained in industry over a period of years will be acceptable. The successful candidate will have a 'hands-on' approach with good interpersonal and team working skills and must be able to communicate at all levels and work to tight deadlines.

The position includes extensive management training and a generous personal development budget. With the support of academic experts, the West of Scotland KTP Centre, and mentoring from a KTP Adviser, this is an excellent opportunity which offers an extremely interesting, varied and challenging role.

Job Description

Brief Outline of Job:

Through this Knowledge Transfer Partnership project, you will play a key role in managing and implementing strategic developments in the company and transferring knowledge between the University and company. Typical challenges you will encounter as a KTP Associate include designing and introducing new or improved products or processes, re-organising production facilities and introducing improved quality systems and technology, in order to allow the company to break into new markets. Specifically, ElastEon® polymers, RUA's family of polysiloxane urethanes, have been demonstrated as one of the most biostable polyurethanes on the market. Traditional polyurethanes are typically susceptible to either hydrolytic and/or oxidative degradation but the novel, contemporary, polyurethane ElastEon® family has been demonstrated as best in class via a copious number of academic and surgical publications. The polymers have been used in long term human implants for well over 15 years and is the enabling technology behind over 7 million life sustaining devices.

This KTP programme will expand RUA's knowledge base, critical to the development of new and innovative material, manufacturing processes and products. As a Polymer Engineer, you will work alongside a second KTP Associate (a Polymer Scientist) to establish new insights into polymer-processing-property relationships through, for example, a comprehensive rheological audit and final product material characterisation. A particular focus will be on the development, parameterisation and experimental validation of an extended MoldFlow model of the current injection moulding process for subsequent process development.

Main Activities/Responsibilities:

1.	Review of the current processing capabilities and available data, including the rheology of current formulations, and product material characteristics for establishment of baseline performance and agreement of KPIs for new generation formulations
2.	Review of existing manufacturing capability for current markets and identification of capability enhancements
3.	Review of capability required to move into identified premium markets.
4.	Development of process analysis and control technologies.
5.	Development of new product manufacturing processes, quality systems and certification
6.	Embedding of new knowledge and systems into the company by providing training and support.
7.	Project management and resourcing
8.	Producing milestone reports and presenting work at project review meetings
9.	Completion of KTP Final Report
10.	Involvement in dissemination activities including trade publications, case studies, academic papers and external presentations

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

- E.1 A PhD in Chemical or Mechanical Engineering, Chemistry, Materials Science or a related discipline. Alternatively, a good honours degree (2.1 or better) with equivalent skills gained in industry over a period of years will be acceptable.

Experience

- D.1 Experience of working in the medical device industry or other manufacturing environment
- D.2 Familiarity with the fundamental concepts of rheology, material characterisation, polymer chemistry and polymer processing, with desirable specific experience of process engineering, ideally injection moulding, and familiarity with MoldFlow software. Alternatively, a strong background in mechanical engineering with experience of finite element analysis would be appropriate.

Job Related Skills and Achievements

- E.2 Ability to plan and undertake multi-factorial experiments and data analysis, prepare reports and present results
- E.3 Ability to organise, plan and use time efficiently with limited supervision

E.4	Highly focussed on core objectives and target driven with the ability to work to tight deadlines and demonstrate prioritisation of workload.
D.3	Proactive and able to use initiative and think creatively
D.4	Good commercial understanding and awareness of commercial imperatives
D.5	Good understanding of health and safety issues
Personal Attributes	
E.5	Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences.
E.6	Flexible and adaptable with the willingness to acquire business skills and strategic thinking
E.7	Ability to work within a multi-disciplinary team and with colleagues at all levels
D.6	Ability to take a logical approach to problem solving with an overview of the situation
Other Relevant Factors	
E.8	Motivated and with a willingness to learn
E.9	Customer focused with a 'hands-on' approach
D.7	Knowledge of KTP

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Dr Monica Oliveira, Senior Lecturer (monica.oliveira@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the KTP Associate staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

Probation

Where applicable, the successful applicant will be required to serve a 6 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

