

Biosensors and Point of Care Testing - Biomedical Engineer (KTP Associate)

Department	Biomedical Engineering (www.strath.ac.uk/engineering/biomedicalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	KTP	Reference No	337992
Reports To	Dr Damion Corrigan (Academic Supervisor); Lina Gasiūnaitė (Company Supervisor)	Grade:	RS79
Salary Range:	Up to £34k p.a. plus £4k training and development budget	Contract Type:	Fixed Term (24 months)
FTE	1	Closing Date	08/02/2021

Job Advert

The Department of Biomedical Engineering in partnership with Biotangents Limited (<https://www.biotangents.co.uk/>) is looking to appoint a Point of Care Testing - Development Engineer (KTP Associate) to lead the translation of novel biosensing and electrochemical detection strategies into an integrated product suitable for diagnostic use in the field.

Biotangents is a veterinary diagnostics company based in Scotland focusing on portable infectious disease diagnostics. They have an advanced technology for detecting infectious diseases using a unique implementation of the isothermal amplification of DNA concept. Using machine learning algorithms to guide its adaptation to specific disease targets, they are using their technology, called Moduleic Sensing™, to develop portable diagnostic tests for various infectious diseases of livestock. Having developed Moduleic Sensing™ initially as a laboratory diagnostic test, they are now working to incorporate it into a portable device to bring advanced diagnostics directly to the point of need. By catching diseases earlier, treatments can be applied more effectively and the spread of the disease reduced.

The post is initially for 24 months but it is the company's aspiration that on successful completion of the project the post holder will continue the work as a Biotangents employee. KTPs offer extensive opportunities for graduates and post-grads, as you provide the link between an expert academic team and a dynamic company. This 'bridge' gives you unique and exceptional access to both worlds.

The successful candidate will have the opportunity to lead the integration of Biotangents' Moduleic Sensing™ strategies into a hardware/instrumentation solution to generate a rapid, in the field, multiplexed diagnostic technology for a range of key infectious diseases in the veterinary sector. This project will offer candidates the opportunity to develop their existing skills through leading on the integration/translation of a novel biosensing strategy into a fully developed system for real world use. In conducting the project, the candidate will work with the Biotangents team, gaining exposure to cutting edge molecular and synthetic biology techniques, whilst also working with the academic supervisors (Dr Damion Corrigan – Biomedical Engineering and Dr Andrew Ward – Civil and Environmental Engineering) on aspects of electrochemical detection strategies, sensor fabrication, low cost potentiostat development, sample delivery, fluidic integration and control software.

To be considered for the role you should have experience in the development of electrochemical biosensors, ideally through PhD or Post-Doctoral level qualifications, in Biomedical Engineering, Physical Chemistry, Electrical Engineering or Micro/Systems Engineering. Experience in or exposure to molecular biology techniques, particularly nucleic acid amplification strategies is advantageous. In addition, experience of project management and a demonstrable ability to take the lead on managing and delivering a complex project, which integrates aspects of molecular biology, electrochemical sensing and hardware/instrumentation development will be an advantage.

The position offers the KTP Associate the following benefits:

- A challenging and rewarding job, with real responsibility within the work environment
- A planned program of training courses, including a £4,000 personal development budget
- Mentoring from industrial and academic supervisors
- Support and resources from the University
- The opportunity to implement strategic development within an innovative company

The post will be mostly based remotely (subject to Covid-19 guidelines) or at the company premises in Penicuik. Interviews are expected to take place during the second half of Feb 2021 and the appointed candidate must be able to start the post no later than 10th of May 2021.

The project is part of the Knowledge Transfer Partnership (KTP) programme that aims to help businesses improve their competitiveness and productivity through better use of knowledge, technology and skills that reside within the UK knowledge base. Successful Knowledge Transfer Partnership projects are funded by UK Research and Innovation through Innovate UK and are part of the government's Industrial Strategy. 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. There are over 200 vacancies currently available at www.ktp-uk.org/graduates or search 'KTP jobs'.

Job Description

Brief Outline of Job:

Supported by the academic team at the University of Strathclyde and Biotangents, the KTP Associate will deliver a field operable, fully integrated hardware and instrumentation solution for the multiplex detection of key animal pathogens at the point of need.

Main Activities/Responsibilities:

1.	To lead on the development of a novel bio-electrochemical nucleic acid assay
2.	Design and fabrication/production of a multi sensor array for integration into the assay hardware
3.	Development of portable hardware/instrumentation for deployment in the field
4.	Development of measurement routines, software and user interface to enable use of the assay by non-specialists
5.	Preparation of technical documents outlining standard operating procedures
6.	Act as a conduit to transfer knowledge from academia to industry
7.	Plan and manage workload with guidance from colleagues as required
8.	Ensure proper project management and reporting requirements are met throughout
9.	Engagement with the wider industry and academic community through publication and presentation of work at conferences and tradeshows

Person Specification

Educational and/or Professional Qualifications

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

E1 PhD in biomedical engineering, physical chemistry (ideally chemical/biological sensing), physical science, electrical engineering, systems or microsystems engineering

D1 Post-Doctoral experience of electrochemical biosensor development

D2 Membership of relevant learned/professional bodies

Experience

E2 Experience of previously working on interdisciplinary bio/chemical sensing projects

D3 Evidence of previous experience in synthetic/molecular biology, PCR reaction design, etc.

D4 A broad understanding of molecular diagnostics and point of need testing

D5 Ability to lead a complex programme of interdisciplinary research

Job Related Skills and Achievements

D6 Demonstrable strength for teamwork, or any evidence of industrial interaction

E3 Experience of technical writing, preparation and delivery of training

Personal Attributes

E4 Excellent organisational and communication skills

E5 Excellent numerical skills

E6 Ability to work under own initiative and project manage

E7 Awareness of commercial drivers

E8 Proactivity and inventiveness in devising solutions to technical challenges

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview 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 Damion Corrigan, Senior Lecturer (damion.corrigan@strath.ac.uk / 0141 548 3294).

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](#).

Interviews

Formal interviews for this post will be held mid-late February 2021 – date to be confirmed

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 gender equality in academia across all academic disciplines and professional and support functions.

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.

