UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Surgical Robotics, Faculty of Engineering

Salary: Grade 7 (£33,199 – £39,609 p.a.)

Job Reference: ENGEE1078

Closing Date: 30 October 2018

Fixed-term for 2 years

We will consider flexible working arrangements

Research Fellow in Surgical Robotics

School of Electronic and Electrical Engineering

Do you want to make a difference in patients' quality of life by creating innovative robots that are able to treat incurable diseases? Are you excited about contributing to scientific research in surgical robotics? Are you able to think outside the box to find innovative solutions to life-threatening diseases? Do you want to join an international team of outstanding roboticists and clinicians?

We are looking for a proactive individual to join our Science and Technology of Robotics in Medicine (STORM) Lab, bringing their excitement for scientific research in surgical robotics with them.

At the STORM Lab, we strive to improve the quality of life for people undergoing soft-tissue surgery and flexible endoscopy by creating miniature and non-invasive robots. The continuous quest for miniaturization is enabling miniature capsule-like or tentacle robots to work inside the human body. At the STORM Lab, we are designing and creating soft and compliant robotic devices to be used inside specific districts of the human body to detect and cure diseases in a non-invasive way.

This vacancy is created by a major EPSRC Programme grant to the STORM Lab aiming to deliver ultrasonic devices for minimal access interventional surgery via a soft, flexible and compliant robotic manipulator. This collaborative grant has partners at the Universities of Birmingham, Edinburgh, Glasgow and Southampton.

Holding a PhD (or close to completion) in Mechanical Engineering, Biomedical Engineering, Computer Science, Electronic Engineering, Robotics or related disciplines, you will have a proven track-record in medical device design and/or robotic systems, together with a proactive, enthusiastic approach to research.

What does the role entail?

As Research Fellow in Surgical Robotics, your main duties will include:

- Designing, fabricating and conducting lab-based evaluation of small-scale medical robots for endoscopy and surgery;
- Developing and using soft manipulators to deliver therapy through winding and convoluted pathways;

- Pre-clinical assessment of developed systems in animal and/or cadaveric models in collaboration with our clinical partners;
- Analysing and summarizing research results into high-quality peer-reviewed scientific publications;
- Co-supervising students in the field of surgical robotics and mechatronics;
- Traveling to research meetings with our collaborators and presenting research results at conferences worldwide;
- Participating in outreach activities to engage the broader community into science and engineering.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As Research Fellow in Surgical Robotics you will have:

- A PhD (or close to completion) in one of the following disciplines: Mechanical Engineering, Biomedical Engineering, Computer Science, Electronic Engineering, Robotics or related disciplines;
- Experience and a proven track-record in at least one of the following areas with peer-reviewed publications in high-impact-factor journals: soft robots, continuum robots, continuum manipulators, capsule robots, surgical instrumentation, robotic manipulators;
- Experience in flexibility and multitasking through work on multiple stages of system development;
- Considerable experience in interdisciplinary research and integrated development projects;
- Experience in supervising students and research interns, with mentoring, leadership and project management skills;
- Experience in presenting the research at international conferences and ability to collaborate with partners at other institutions;
- Demonstrable understanding of the diverse nature of the University's community and a willingness to work effectively with staff, students and visitors from a wide range of backgrounds.

You may also have:

- Experience of collaborating with clinicians;
- Experience in Robot Operating System (ROS) and its Gazebo simulation package, Python or other object-oriented programming language;
- Experience in Computer Aided Design software e.g. SolidWorks;
- Experience in Computer Aided Manufacturing (3D printing, laser cutting, CNC milling, etc.);
- Experience of using Mathworks MATLAB;
- Experience of pre-clinical trials in animal or cadaver models.

Preference will be given to applicants with a proven research record and publications in relevant areas.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Prof Pietro Valdastri, Professor of Robotics and Autonomous Systems
Tel: +44 (0)113 343 3706
Email: p.valdastri@leeds.ac.uk

Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the Faculty of Engineering and the School of Electronic and Electrical Engineering.

A diverse workforce

The Faculty of Engineering is proud to have been awarded the Athena Swan Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

Working at Leeds

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.