



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Support Technician in Robotics, Faculty of Engineering



Salary: Grade 6 (£27,025 – £32,236 p.a.)

Reference: ENGEE1077

Closing Date: 1 October 2018

Fixed-term for 3 years (due to grant funding)

We will consider flexible working arrangements

Research Support Technician in Robotics

School of Electronic and Electrical Engineering

Do you want to support world-leading research in surgical robotics? Do you want to contribute improving patients' quality of life by facilitating the creation of innovative robots to treat incurable diseases? Do you want to join an international team of outstanding roboticists and clinicians?

We are looking for a professional and proactive individual with a good team-working ethos to support our research at the Science and Technology of Robotics in Medicine ([STORM](#)) Lab. You will have a varied and exciting role supporting world leading research in the area of surgical robotics. You will be a key member of the STORM lab team and be responsible for passing on your technical experience, maintaining the software code developed for our surgical robots, managing laboratory equipment and health and safety for the Lab.

At the STORM Lab, we strive to improve the quality of life of people undergoing soft-tissue surgery and flexible endoscopy by creating miniature and non-invasive robots. The continuous progression of technology is enabling miniature capsule- or snake-like 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 more effective and less invasive way.

The STORM Lab is a 100m² dedicated research space equipped with μ m-resolution rapid prototyping machines, three medical-grade robotic arms, a full surgical robot, haptic interface devices, a variety of precision linear stages and force sensors, and a full Olympus flexible endoscopy system. An extraction hood and a vacuum oven allow for silicone and other soft polymers casting and moulding. Data acquisition boards are available to read sensors and control actuators.

You will be directly involved with our advanced robotic platforms, including the Intuitive Surgical [daVinci Research Kit \(dVRK\)](#) and our [magnetic flexible endoscope \(MFE\)](#). The University of Leeds is the only UK University outside London to have a da Vinci Surgical Robot to be used for technology-oriented research. We also have a strong industrial collaboration with KUKA and we use their LBR Med robots as we move our MFE platform towards first-in-human trials.



What does the role entail?

As a Research Support Technician in Robotics your main duties will include:

- Providing technical support for a diverse range of robotics research activities, including acting as a point of expertise, considering new technical approaches, advising staff, students and visitors on matters of technique and use of apparatus. This will include providing research support, inductions and training sessions to researchers prior to their use of equipment; informal one to one training and demonstrations; highly specialised and technical advice for research projects;
- Organising and maintaining the software developed at the STORM Lab for our surgical robotic platforms (in particular the dVRK and the MFE platforms), keeping them well-organised and occasionally carrying out minor fixes in collaboration with the STORM Lab researchers;
- Assisting with the construction of new electro-mechanical laboratory equipment and the purchasing of necessary components as directed and required by academic staff;
- Proactively approaching academic staff to determine their requirements, adapting the technical support provided as appropriate;
- Working alongside colleagues to take responsibility for the day-to-day operation of laboratory facilities and managing the use of equipment and materials needed for research;
- Taking the lead in all health and safety matters of the STORM Lab, including, but not limited to: delivering lab inductions, electrical safety testing, equipment training, assessing risks, maintaining risk assessment and other health and safety records and enforcing relevant policies;
- Keeping effective records of laboratory information and providing clear, understandable information to students and other staff;
- Maintaining an up-to-date list of stock components and ordering components as required for research and student projects;
- Contribute to the [international dVRK research community](#) by posting and maintaining open source software developed at the STORM Lab and by supporting other members of the community wishing to use our code;
- Providing technical support to staff and students, communicating with others both verbally and in writing;
- Playing a proactive role in the university's technicians' network, for example to share best practice.



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 a Research Support Technician in Robotics you will have:

- A-Levels in Computing, or other relevant Engineering subjects (e.g. Robotics, Mechatronics), or a BTEC Level 3 qualification in an Electronic/Electrical Engineering subject, or an equivalent qualification (including a higher level qualification in a relevant area);
- Experience in software coding, object-oriented programming (e.g. one or more of the following languages: embedded C, Matlab, Python, C++, Java, or Labview) and maintaining large code bases (e.g. traceability and control of edits by multiple users);
- Extensive practical experience in the use of electro-mechanical laboratory fabrication and test equipment, including: prototyping tools (e.g. soldering iron, drills, 3D printers), bench power supplies, digital oscilloscopes and function generators;
- Experience with electronic circuits, either in construction of prototype circuits or component-level diagnostics and repairs, and a good understanding of electric circuits and basic electronic theory;
- Experience with using MS Office software;
- Developed organisational skills with the proven ability to prioritise work, manage time well and deliver against demanding deadlines;
- Enthusiasm and initiative when working independently, but also as part of a wider team;
- A proven ability to readily learn new techniques, practices and procedures;
- Proven communication skills - both written and oral;
- Ability to perform manual handling duties safely using agreed procedures.

You may also have:

- Familiarity with medical device development;
- Experience with open-source software (e.g. Robot Operating System) and repositories (e.g. Github);
- Experience with signal processing;



- Experience of working in a research environment;
- Experience with health and safety procedures, for example, conducting risk assessments;
- City & Guilds (or equivalent) in PAT testing.

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:

[Pietro Valdastri](#), PhD, 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.

