

Research Role Profile

Job Title:	Research Fellow
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Responsible to:	Head of research group, or principal investigator
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Responsible for:	There is no direct supervisory responsibility
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Job Summary and Purpose:
To support research activity in accordance with specified research project(s) under the supervision of the principal investigator

Main Responsibilities/Activities
<p>To support a research team by contributing to the planning of research projects and undertaking prescribed research tasks in accordance with specified research project(s), making use of standard research techniques and methods. These may include fieldwork, interviews, laboratory experimentation, computer-based data analysis or library research as directed by the research award holder and will entail co-ordinating own work with that of others to avoid conflict or duplication of effort. Analysing and interpreting results of own research, under the guidance of research award holder or supervisor. Write up results and contribute to the preparation of papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for disseminating research results of personal development.</p> <p>Continually update knowledge and develop skills</p> <p>To carry out routine administrative tasks associated with a specified research project, for example risk assessment of research tasks, organisation of project meetings and documentation. This will entail planning own day-to-day research activity within the framework of the agreed programme, dealing with problems that may affect the achievement of research objectives and deadlines and implementing procedures required to ensure accurate and timely formal reporting and financial control</p> <p>Demonstrating, or occasionally assisting with undergraduate supervision within the post holder's area of expertise and under the direct guidance of a member of the Faculty academic staff.</p>

Research Role Profile

Person Specification

The post holder must have:

A first degree or a professional qualification or equivalent in a relevant subject.

At least part-completed a relevant doctoral degree or have relevant experience in a given field.

Whilst there is no requirement for previous work experience, the post holder will be expected to be able to support research activities by performing experiments and/or undertaking studies and analysing/ interpreting results.

Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor.

Special Requirements

To be available to participate in fieldwork as required by the specified research project.

All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
 - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
 - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager.

Addendum to Role Profile

Job Title:	Research Fellow
Responsible to:	Professor Yang Gao
Responsible for:	Not applicable

Job Summary and Purpose:

This information sheet should be read in conjunction with the accompanying generic Research RA1B Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

The RA will contribute to research expertise of the STAR-LAB, and work on the following research topic:

The successful candidates will contribute to research expertise of the STAR-LAB, and work on subsurface robotics in relation to locomotion and mobility design based on bio-inspired techniques. The postdoc is expected to develop lightweight drilling mechanism based on “wasp drill” technology invented at the STAR LAB, originally for space applications and in this project to transfer the space technology and apply to a new brand-new terrestrial drilling application. The researcher will also be responsible for testing and validation of the developed robotic prototype using the subsurface robotics testbeds hosted at the STAR LAB (<https://www.surrey.ac.uk/school-mechanical-engineering-sciences/facilities/ai-robotics-facilities>) and field trials.

The relevant research project involves collaborations with industrial partners (e.g. BT and Synthotech) and require formal reporting through publications and presentations on a regular basis within the project consortium.

Main Responsibilities/Activities

The project entails the design and testing of robotic systems. Although the work will be focused on the above topic the Postdoc is also expected to assist other related research project(s) in autonomous robots. Specific activities/responsibilities are:

- To develop research on AI robotics techniques in collaboration with internal & external partners.
- To test the design prototype in lab setting.
- To assist MSc/UG projects & teaching on relevant topics.
- To write technical reports, proposals and papers.
- To support research dissemination activities.

Person Specification

Addendum to Role Profile

The post holder must have:

Essential:

- A first degree or a professional qualification or equivalent in engineering, mechatronics, or robotics, etc.
- At least near completion of a relevant doctoral degree or have relevant industrial experience in the above-mentioned fields.
- Strong hands-on experience in robotic hardware, and relevant programming (CAD modelling, DEM/FEM analysis, etc).
- Experience in technical report and paper writing.
- Good professional skills such as communication and presentation.
- Willingness to work proactively and independently

Desirable:

- Experience with hardware testing and field trials.

Relationships and Contacts

- A member of the SSC-STAR LAB <https://www.surrey.ac.uk/school-mechanical-engineering-sciences/research/star-lab>.
- Ensure that all research activities undertaken are in compliance with the 'Research Code of Conduct' operated by the University of Surrey.
- Ensure compliance with health and safety requirements in all aspects of work.