

Job Title:	Research Fellow (RA1)
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Responsible to:	Head of research group, or principal investigator
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Responsible for:	Responsibility for staff within own research group
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Job Summary and Purpose
To deliver research in accordance with the specified research project.

Main Responsibilities/Activities
<p>To contribute to the development of the research of the Faculty, by planning and carrying out research activity within a specified area, often in collaboration with colleagues.</p> <p>To take a significant role in planning, co-ordinating and implementing research programmes and, where appropriate, commercial and consultancy activities. To take lead responsibility for a small research project or identified parts of a large project. This may include planning fieldwork, data analysis and evaluation and laboratory experimentation. To make decisions about research programmes and methodologies, often in collaboration with colleagues, and to resolve the problems of meeting research objectives and deadlines.</p> <p>To develop new concepts and ideas to extend intellectual understanding. Assess, interpret and evaluate the outcomes of research, and develop ideas for the application of research outcomes. To take a role in the regular publication of results in appropriate journals, in giving presentations at national and/or international conferences, and in other outputs as required and/or appropriate.</p> <p>Continually to update knowledge and develop skills. To extend, transform and apply knowledge acquired from scholarship to research and appropriate external activities.</p> <p>To carry out management and administrative tasks associated with specified research funding, including managing and developing staff within their projects; risk assessment of project activities; organisation of project meetings and documentation; management of resources, preparation of annual reports, and management or monitoring of research budgets. To oversee and implement procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To undertake liaison with external organisations including equipment manufacturers, steering committees, associated academic facilities and commercial users.</p>

Person Specification

The post holder must have:

Normally a doctoral degree in a relevant discipline, together with appropriate experience of working in a similar area of work.

The post holder will need to demonstrate a high level of competence and independent standing in research by being nationally recognised within their area of discipline, publishing regularly in recognised appropriate journals and attracting research funding for their own work or for other staff within the research group.

Relationships and Contacts

The post holder may have a key responsibility to the principal investigator, with prime responsibility for reporting and liaison with external funding bodies or sponsors. The post holder will also supervise the activities of PhD students and technician staff within the particular research group

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 in Multifunctional Structures for Flooring	Research Fellow (1A)
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Job Summary and Purpose:

To undertake research within the EPSRC project: “Multifunctional Flooring: Design for Independent Living” and coordinate research activity with relevant partner organisations, under the supervision of the principal investigator.

Main Responsibilities/Activities

- i) Developing validated numerical models for various human-floor interaction scenarios.
- ii) Creating design maps, considering various functionalities, by systematic exploration of the design space
- iii) Developing accelerated surrogated models for multi-objective optimisation of floors
- iv) Manufacturing and testing of low-cost pressure/deflection sensing materials for floor application
- v) Co-design of electrical sensing capability for presence or pressure detection matched to the mechanical properties of the floor
- vi) Physical testing of the flooring system with participants to investigate its impact on static balance
- vii) Manage the project (together with the PI)
- viii) Assistance with supervision of PhD and undergraduate students in collaboration with the principle investigator
- ix) Report & paper writing
- x) Presentation at project meetings and international conferences

Person Specification

The post holder must have:

Essentials:

- A doctoral degree in scientific/engineering discipline with substantive experience with manufacturing techniques and/or processing, characterisation and/or modelling.
- Experience in Finite Element Modelling.
- Communication skills: proven ability to formulate problems, and to prepare high impact reports, and to present their work both orally and in written form to all levels of audience, from group meetings to major high impact international journals and large international conferences.
- Interpersonal skills: ability to maintain excellent collaborative links within the group and key collaborators; to organise and run workshops and meetings; to make presentations and give lectures and seminars; to help guide project students and junior group members.
- Research skills: proficient in scientific literature, critical and analytical approach, willing to learn new techniques and approaches in experiment and modelling.

Desirables:

- Working with multi-functional/smart materials.
- Experience in programming (preferably Python), in using machine learning libraries such as TensorFlow.
- Experience in manufacturing and mechanical or electromechanical testing.

Relationships and Contacts

Direct responsibility to the principal investigator Dr Iman Mohagheghian, email: I.mohagheghian@surrey.ac.uk .