

Research Role Profile

Job Title:	Research Fellow A
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Responsible to:	Head of research group, or principal investigator
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Responsible for:	Not applicable
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Job Summary and Purpose:
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.

Main Responsibilities/Activities
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include fieldwork, interviews, laboratory experimentation, critical evaluation and interpretation, computer-based data analysis and evaluation or library research.</p> <p>Using initiative and creativity to identify areas for research develop new research methods and extend the research portfolio. Analysing and interpreting results of own research. Write up results and prepare papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results of personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate.</p> <p>The post holder may occasionally be required to supervise more junior research staff.</p>

Research Role Profile

Person Specification

The post holder must have:

A doctoral degree in a relevant discipline (although individuals who have almost completed a doctoral degree may be appointed). Consideration may also be given to individuals who do not hold a doctoral degree but have required skills based on a number of years experience in specified / relevant fields

The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and be able to interpret and analyse results.

Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor. The post holder may be asked to serve on a relevant Faculty committee. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may work on original research tasks with colleagues in other institutions.

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 A

Main Responsibilities/Activities

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

Conduct research on a project funded by The Leverhulme Trust. The aim of the project is to develop a new dynamical model based on the theory of open quantum systems, allowing us to characterise quantum mechanically fusion reactions of atomic nuclei in dense stellar plasma for the first time.

Specifically, the post-holder will be expected to investigate the possibility of laser-assisted element creation in a laboratory through low-energy fusion reactions of atomic nuclei. In collaboration with the team, the post-holder will be expected to contribute original ideas to the development of a quantum dynamical model, its efficient implementation in a computer code, and the interpretation of the numerical results.

The post-holder will take a lead in communicating the results of the research in high-impact journal publications, conference presentations, and demonstrations for the general public.

The post-holder will be expected to offer general support to the PhD student involved in this project.

Person Specification

In addition to the criteria outlined in the accompanying generic Research Fellow Role Profile, the post holder should have (E = Essential; D = Desirable):

- A PhD in Theoretical Physics or Chemistry, ideally with previous experience with modelling nuclear or chemical reactions (E)
- Knowledge of quantum dynamics and associated numerical simulations (E)
- Knowledge of quantum dynamics induced by laser fields (D)
- Knowledge of high-performance computing (E)
- Excellent communication skills with previous experience in writing journal articles for publication and in making oral presentations (E)
- An ability to work independently and to propose original research ideas (E)