

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>

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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.

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Addendum

This document provides additional information relating to both specific aspects of the post/faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Role Profile.

Job Title:	Post-doctoral Research Fellow in Immune Aging
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Background Information/Relationships

We invite applications from talented, ambitious, and highly motivated postdoctoral scientists to take a leading role in The Dunhill Medical Trust funded project investigating Adrenergic regulation of immunosenescence and cognitive decline across the life course. You will join a multidisciplinary team of immunologist and neuroscientist and use the latest technologies to assess the relationship between sympathetic nervous system (SNS) activity, inflammation, immune function, and cognitive capacity in a cross-sectional human study. This position is funded for 3 years. You should have a PhD with relevant experience in immunological techniques and conducting human research.

Heightened SNS activity and systemic adrenaline are seen in many age-related morbidities including cognitive decline and has also been found to increase inflammation whilst suppressing immune activation. Increased low-grade inflammation and loss of antigen-specific immune responses are the two hallmarks of an aged immune system. This suggests adrenergic signalling may be involved in the regulation of immune ageing. We have found that β -adrenergic stimulation can induce senescence features in T cells including senescence signalling, ROS expression and DNA damage. Accumulation of highly differentiated T cells and inflammation also predict mortality and are increased in individuals with cognitive impairment. Whether increased SNS activity and adrenergic signalling impact immune ageing and whether this immune ageing may then impact cognitive function is not known. The aim of this project is to investigate the link between SNS activity, adrenergic induced immunosenescence and reduced cognitive function across the life-course.

The post-holder will work in the group of Dr Natalie Riddell along with Dr Ciro della Monica and with other group members in the Immunology Section and Surrey Sleep Research Centre, both within the Faculty of Health and Medical Sciences. The growing and vibrant Section of Immunology is located at the beautiful campus of the University of Surrey, close to London. With the use of state-of-the-art facilities, you will perform in-depth characterisation of ex-vivo systemic inflammation and the immune response to different immunological and adrenergic challenges and will determine how this relate to cognitive function and SNS activity. The project will involve running a human study, measuring cardiac sympathetic and vagal control, conducting unbiased assessments of cognitive functions, flow cytometry including full fluorescent spectrum technology (Cytek Aurora) (for Imm-AGE scoring and immune function), immunoassays (ELISA and IsoPlexis multiplex Secretome platform) and using in-vitro systems to examine cellular & molecular regulation of immunity by adrenergic signalling.

Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Role Profile.

	Essential/ Desirable
1. Experience in cell/tissue culture	E

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2. Experience in multi-coloured flow-cytometry	E
3. Experience in immunoassays (e.g. ELISA)	E
4. Experience of data visualisation and unbiased analysis (e.g. tSNE, R etc)	E
5. Knowledge of human immune ageing	D
6. Experience in running human studies, e.g. HTA compliance and GCP	D
7. Experience/ desire to learn different cognitive assessments and cardiac ECG/ICG assessment	E
8. Ability to work with colleagues with a positive and flexible approach	E
9. Self-motivated with the ability to work effectively as part of a team and independently. Excellent communication and organisation skills.	E
10. Experience in supervising junior lab members	D
11. Good lab record keeping	E
12. A PhD degree in a relevant discipline (or equivalent)	E
13. Be competent in or desire to undertake phlebotomy training	E

Key Responsibilities

This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities (5 to 8 maximum). This should be read in conjunction with those contained within the accompanying generic Role Profile.

To lead a team conducting human research investigating the link between SNS activity, immune ageing, and cognitive function. You will work with recruitment officers, a technician and students to organise study visits, conduct ECG/ICG cardiac measurements and cognitive assessment, obtain and process human samples, perform cell isolation/purification, and cellular and molecular immunological investigations on adrenergic regulation of immunity. You will be involved in experimental data analysis and report writing and will be expected to present at conferences and local public engagement events.

N.B. The above list is not exhaustive.