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| **Job Title:** | Post-doctoral Research Fellow A |

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| **Responsible to:** | Principal investigator/Line manager |

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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. |

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| Main Responsibilities/Activities |
| 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.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.Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.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.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.The post holder may occasionally be required to supervise more junior research staff. |

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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.  |

### 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 Cellular Immunology*** |
| **Background Information/Relationships** We are seeking a dynamic and committed postdoctoral scientist to study the immunogenicity of novel intranasal vaccines including cellular and molecular immune responses against SARS-CoV-2/COVID-19. You will undertake cellular and immunological investigations on vaccine and antigen induced antigen-specific T and B cell responses. You should have a PhD with relevant experience in cellular immunology. Despite the current vaccination against SARS-CoV-2 infection that reduces the numbers of severe COVID-19 cases and death, it fails to prevent new infections in many people. One of the main reasons for the failure of current vaccines (administered intramuscularly) to effectively prevent infection is thought due to the lack of ability to induce local immunity in upper airway, as the injected vaccines produce antibodies mainly in the blood, few of which make it to the nasopharynx where the initial infection takes place. In collaboration with Intravacc (a vaccine company in the Netherland), the project will investigate the capacity of novel intranasal vaccines to induce both T cell immunity and antibody responses against COVID-19 using an *ex vivo* cell culture system with human nasopharynx mucosal immune tissue. You will work in the group of Dr Qibo Zhang along with Prof Deborah Dunn-Walters’s group and also work closely with other group members (e.g. Vaccinology Group) in the Immunology Section, School of Biosciences and Medicine (SBM). With the use of state-of-the-art facilities in SBM, the project will include analysis research of antigen-specific IgA/IgG antibody responses (including virus-neutralizing antibodies) following vaccine stimulation of the immune cells from nasopharynx immune tissue. Detailed cellular and molecular analysis of vaccine-induced T and B cell responses will be performed including activation of germinal centre response, follicular helper T cell and tissue resident memory cells etc. The work will involve the use of immunoassays (ELISA, ELISpot), confocal microscopy and multi-colour flow-cytometry, and cytokine array analysis etc. |
| **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 and immunoassays (e.g. ELISA, ELISpot assay)
 | **E** |
| 1. Experience in flow-cytometry
 | **E** |
| 1. Experience in T cell anti-viral immunity
 | **D** |
| 1. Knowledge of vaccine immunology and related T/B cell immunology
 | **D** |
| 1. Experience in Functional antibody assay e.g. neutralisation
 | **D** |
| 1. Experience in confocal microscopy
 | **D** |
| 1. Ability to work with colleagues with a positive and flexible approach
 | **E** |
| 1. Self-motivated with the ability to work effectively as part of a team and independently. Good communication skills.
 | **D** |
| 1. Good lab record keeping
 | **E** |
| 1. A PhD degree in a relevant discipline (or equivalent)
 | **E** |
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| **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 study the immunogenicity of novel vaccines including cellular and molecular immune responses against SARS-CoV-2/COVID-19. You will undertake relevant clinical sample processing, cell isolation and culture, and cellular and immunological investigations on vaccine induced antigen-specific T and B cell responses. You will be involved in experimental data analysis and report writing. |