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| **Job Title:**  | **Dean’s Research Fellowship (B) in the development of Systems Immunology and Metabolism** |
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| **Responsible to:**  | Head of Section, **Immunology/ Dean of Faculty**  |
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| **Responsible for:**  | Not applicable  |
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| **Job Summary and Purpose:**  |  |
| To undertake research in project(s) of own direction in consultation with Senior Colleagues.  |

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| **Main Responsibilities/Activities**  |
| Introduction:This position will sit within the Faculty of Health and Medicine Science at the University of Surrey. In addition to driving their own research interests, the successful applicant will initially work embedded in specific projects of research academics in the development of analytical tools of multi-omic, single-cell and spatial mass-spectrometry data. In particular the post-holder will be involved in the development and use of methodology in bulk, single-cell or spatial multi’omic technologies (mass-spectrometry based) with an emphasis on metabolomic and lipidomic and in collaboration with our Industrial collaborators from Waters, UK. The post-holder will also have the opportunity to get familiar and be involved in the integration and analysis of large datasets from different technologies including transcriptomic or proteomic. The applicant will benefit from access to all these technologies and be involved in the production of complex and high-dimensional datasets; which also renders their analysis and interpretation a complex and technical challenge. These new methodologies will ultimately help to strengthen analytical tools in Systems Biology, namely Systems Immunology and drive our ambition in Systems Metabolism. The applicant will benefit from, and contribute to, expertise available in the newly formed People-centred AI institute.Responsibilities:To undertake research and innovation activities and assume responsibility for the direction of projects by making use of new research techniques and methods, in consultation with the hosting lab leads within the Department of Biochemical, Department of Clinical and Experimental Medicine, and colleagues across the Faculty of Health and Medical Sciences and beyond.To use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio. Analyse, interpret and build on results of own research. Write up results and prepare manuscripts for submission to appropriate journals and conferences, and deliver other relevant outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results, networking and own personal development. The post holder will write proposals for research grants and will contribute to collaborative decision making with colleagues in areas of research. To continually update knowledge, 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, documentation and archiving of data. Implementation of procedures required to ensure accurate and timely formal reporting and financial control. To (co-)develop innovation projects generating original research with high impact factor, IP and patent application outcomes, which will shed light onto the University for the Research Excellence Framework (REF) exercises and patent applications, is also expectedTo contribute to teaching in the Faculty by carrying out lecturing, personal tutoring, student supervision and/or demonstrating within the post holder’s area of expertise and under the direct guidance of a member of School academic staff, as appropriate. The post holder will be required to supervise junior research staff.  |

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| **Person Specification**  |
| **The post holder must have:** A doctoral degree in chemistry or biochemistry and ample expertise in mass-spectrometry analysis, data extraction and downstream bioinformatics analysis. The post-holder must have proven record of developing or participating in projects related to the preparation, acquisition and analysis of various biological/clinical samples by mass-spectrometry. Knowledge of Immunobiology and metabolism is an advantage. The post holder will work embedded in a team in Immuno-metabolism and will share authority on several projects, using this as a springboard until he/she is able to create and take the lead on their project work. Prior success of achieving major research grant funding from national research funding agencies and from industry is a strong advantage. The incumbent must have demonstrated capability of providing academic judgement, offering original and creative thoughts, taking initiatives and being able to interpret and analyse results.  |

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| **Relationships and Contacts**  |
| Direct responsibility to the lab leads on a regular basis. The post holder may be asked to serve on relevant Faculty committees. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder will be expected to develop and work on original research tasks with colleagues within the University of Surrey and from other institutions.  |

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| **Special Requirements**  |
| To be available to participate in research and innovation as required to deliver own specified research programme  |

**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 Job Purpose.  |
| Job Title:  | Dean’s Research Fellowship (Systems Immunology & Metabolism)  |
| Background Information/Relationships The Dean’s research fellowship is designed to be a springboard to a Faculty position. Whilst delivering significant research impact and taking the lead on grant applications is core to this role, the Research Fellow is strongly encouraged to use its initial position to develop partnerships and networks locally, nationally and internationally, with a view to building successful relationships which will continue to drive research and innovation funding. The person appointed will contribute to the portfolio of research activities to be undertaken across but not restricted to precision medicine and wellness, Systems Immunology and newly developed spatial multi ’omic analyses. The Research Fellow will undertake data collection and analysis, writing of reports, preparing manuscripts for publication and writing bids; while assisting present researchers in developing new ways of exploring multi ’omic datasets alongside existing bioinformatic groups and Research Academics. Development of innovation projects for societal benefit, such as Impact Case Studies for the Research Excellence Framework (REF) exercises and patent applications, is also expected. It is expected that a large proportion of the Fellow’s work will be based on stratification of health, wellness and disease from a biomarker discovery, validation and testing perspective. The post holder will sit within the School of Biosciences and Medicine and will contribute to the life of the School including some limited teaching in an area of expertise, supporting students as a personal tutor and supervising student projects/dissertations where appropriate. You will also be encouraged to complete our Graduate Certificate in Learning and Teaching to support you to deliver excellence in learning and teaching at Surrey and to enable membership of the HEA. Teaching is a core development opportunity and Fellows are therefore encouraged to get substantive experience of such activities.  |
| 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 Job Purpose.  |
| **Qualifications and Professional Memberships**  | **Essential/ Desirable**  |
| Relevant PhD  |  Essential |
| Technical Competencies (Experience and Knowledge)  |  Essential |
| Some teaching experience at foundation level or above  | Recommended |
| Experience of primary data collection and subsequent analysis through to publication  | Essential |
| Strong background in AI, machine learning, data mining and statistical analysis in biology, health or medicine.  | Essential |
| Experience of working and securing funding with industry in Bioinformatics, Systems Biology/Immunology or Metabolism  | Desirable |
| Programming skills using R/python/perl/C++/Matlab/Java or similar. Strong expertise in R is a recommended.  | Advantage  |
| Experience in analysis of NGS, mass/Flow Cytometry, or single cell data is strongly recommended.Knowledge of current single cell /spatial data analytical tools (eg. Seurat, etc.) is a significant advantage. | Recommended |
| Experience in the analysis of Metabolic, Immunobiology Data. Alternatively, knowledge to apply this biology, Immunology, metabolism; and work closely with Research academics in these fields | Essential |
| High quality publications and publication track record consistent with research excellence  | Essential  |
| Evidence of writing and ideally winning substantial research bids as main or Co-I applicants. | Essential  |
| Proven ability to work independently with accountability  | Essential  |
| 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. This should be read in conjunction with those contained within the accompanying generic Job Purpose.  |
| 1. Collection and analyses of data for research projects within the portfolio of research activities the incumbent will be expected to develop and with strategic alignment to the University’s research priorities.
2. Development of new analytical tools to allow for cutting-edge analysis of complex high-dimension and spatial multiple ‘omic data.
3. Writing reports and high-quality papers to enable publication in agreed journals.
4. Supervision of students, research staff (inc. students, Unitemps etc.) where appropriate.
5. Develop own research agenda, taking the lead in applications for external funding.
6. Provide input to undergraduate and postgraduate biosciences teaching, along with supervision of dissertation projects and PhD supervision where appropriate.
7. Pastoral care of students through personal tutoring.

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