

Research Role Profile

Job Title:	Research Fellow (1A)
-------------------	----------------------

Responsible to:	Head of research group, or principal investigator
------------------------	---

Responsible for:	Not applicable
-------------------------	----------------

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.

Research Role Profile

ADDENDUM

Job Title:	Research Fellow in Modelling and Machine Learning
-------------------	---

Main Responsibilities/Activities

This information sheet should be read in conjunction with the accompanying generic Research Fellow (1A) Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

The main focus of the project will be formulating and applying modelling and machine learning to the rising problem of antimicrobial resistance.

Specific responsibilities will include:

- Formulation, numerical implementation and validation of mathematical models.
- Programming and design of new data-driven solutions applied to the problem of antimicrobial resistance.
- Design of data collection and processing methods.
- Development of novel AI and machine learning solutions applied to the problem of antimicrobial resistance and diagnostics
- Data analysis and evaluation of solutions relevant to the rising problem of antimicrobial resistance.
- Critical evaluation and interpretation of the findings
- Publication in highly ranked journals and attendance at conferences
- Contributions to projects and effective collaboration with the co-researchers and the project partners.
- Documentation of project results and reporting back to the EU coordinator

Research Role Profile

Person Specification

In addition to the criteria outlined in the accompanying generic Research Fellow (1A) Role Profile, the post holder should have (E = Essential; D = Desirable):

PhD/DPhil (or be near completion), in addition to holding a first degree in engineering, physics, computer science, mathematics, statistics or similar (E)

Experience in machine learning, time-series data analysis, probabilistic models (E)

Programming experience in at least one of Python, MATLAB or R (E)

Willingness to learn and use mechanistic models *i.e.* models (likely based on differential equations) that mimic the bio-physical process of interest (E)

Interest and ability to learn other coding languages as needed (E)

Experience in software development and time-series data analysis (D)

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. 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, especially from the One-Health EJP consortium.

Special Requirements

Willingness to travel in the EU.

Background Information

The post is part of the One-Health EJP consortium, an EU funded partnership between 39 partners, including acclaimed food, veterinary and medical laboratories and institutes across Europe and the Med-Vet-Net Association (<https://onehealthjep.eu/>)

The successful applicants will work across different units: the department of Veterinary Medicine and Public Health and the Department of Pathology and Infectious disease at the School of Veterinary Medicine and the Machine Learning for Healthcare Research group at the Centre for Vision, Speech and Signal Processing (CVSSP).

The project will involve significant interaction with EU partners, including some EU travel.

Research Role Profile