

Research Role Profile

Job Title:	Research Fellow in Sleep Technology and Machine learning
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Responsible to:	Professor Derk-Jan Dijk
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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 Job Purpose.

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Background Information/Relationships

This Research Fellow post is created as part of the Dementia-Research-Institute Care Research & Technology Centre, which is a collaboration between the University of Surrey and Imperial College London. The UK Dementia Research Institute (UK DRI) was created through a joint investment from the Medical Research Council (MRC), Alzheimer's Society and Alzheimer's Research UK. The DRI mission is to find new ways to diagnose, treat, prevent and care for people living with dementia.

This post is within the Surrey Sleep Research Centre (SSRC) and the Centre for Vision, Speech and Signal Processing (CVSSP)

The SSRC, led by Prof Derk-Jan Dijk and located within the Department of Clinical and Experimental Medicine, conducts multidisciplinary research on sleep and circadian rhythms in human and animals. The SSRC undertakes a wide range of research studies across the 'bench to bedside' spectrum. The research is enabled by our excellent clinical and support staff and state of the art clinical and biomedical research facilities.

CVSSP, led by Prof Adrian Hilton, is an internationally recognised leader in audio-visual machine perception research. With a diverse community of more than 150 researchers, we are one of the largest audio and vision research groups in the UK. Research in the Centre has led to award-winning spin-out companies in the biometric, communication, medical and creative industries.

The Dementia Research Institute Care-Research & Technology programme brings together investigators from Imperial College, Surrey and Borders Partnership NHS Foundation Trust and the University of Surrey. At the University of Surrey, investigators from the SSRC, CVSSP and Mathematics collaborate to evaluate and integrate novel technologies for the benefit and care of people with dementia. The postholder will be responsible for research on multimodal contactless methods to monitor sleep, as well as the evaluation, validation and implementation of novel algorithms to quantify sleep in dementia. The postholder will liaise with researchers within the SSRC, CVSSP and Mathematics and the wider Care-Research & Technology programme.

Person Specification

Qualifications and Professional Memberships	Essential/ Desirable
A higher research degree (PhD) in a relevant subject	Essential
Technical Competencies (Experience and Knowledge) This section contains the level of competency required to carry out the role.	Essential/ Desirable
Experience of machine learning	Essential
Experience of research on human sleep	Desirable
Significant research and analytical skills, including programming and statistics	Essential

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Written and verbal communication skills with an ability to write project deliverables and give presentations on the completed work

Essential

Key Responsibilities

1. Organise and conduct research on multimodal contactless sleep monitoring in participants (healthy volunteers and people with dementia), in collaboration with the staff of the Surrey Sleep Research Centre, the Clinical Research Facility, and Surrey and Borders
2. Review and summarise literature on multimodal contactless sleep monitoring and machine learning approaches to quantify sleep.
3. Develop algorithms to quantify sleep based on multimodal sensor information
4. Prepare regular internal project reports and contribute to the completion of project deliverable reports
5. Report research results at national and international scientific meetings
6. Attend face to face meetings with other members of the Imperial-Surrey consortium

N.B. The above list is not exhaustive.