UNIVERSITY OF SURREY

# Research Role Profile

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| **Job Title:** | Research Fellow A in Psychology |

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| **Responsible to:** | Head of research group, or principal investigator |

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| **Responsible for:** | Not applicable |

| **Job Summary and Purpose:** |
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| To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator. |

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

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| **Person Specification** |
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| **The post holder must have:**<br>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.<br>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** |
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| 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** |
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| 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.

| **Job Title:** | Research Fellow in Psychology |
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**Early Childhood Maths Group Spatial Reasoning Toolkit – efficacy trial**

The Project

Spatial ability involves perceiving the location and dimension of objects and the relationships between them (e.g., map-reading, packing a suitcase), and is associated with expertise in Science, Technology, Engineering and Mathematics (STEM). Meta-analytic evidence demonstrates that spatial training increases children's spatial skills, with positive transfer to mathematics (Hawes et al., 2022). Furthermore, many spatial interventions have demonstrated the largest gains for children from disadvantaged backgrounds (Bower et al., 2020; 2022; Schmitt et al., 2018). Despite this robust research literature, the domain of spatial thinking is less regularly targeted for intervention compared to the number domain.

The Early Childhood Maths Group Spatial Reasoning Toolkit (ECMG SRT) is a set of professional development resources developed for practitioners working with young children. ECMG SRT resources include: a research summary and trajectory of spatial reasoning development, posters, videos, children's book lists, 'prompt' keyrings and child assessments. In this programme, practitioners will be implementing the ECMG SRT with 3- to 4-year-old children in nursery settings. The ECMG SRT draws on many spatial skills (e.g., part-whole relationships, perspective taking, spatial visualisation and spatial representation). We predict that children who take part in the ECMG SRT programme will demonstrate improved spatial abilities, with the largest gains for children from disadvantaged backgrounds. Longterm, we predict benefits to children's mathematics.

In Phase 1, we will complete development work to ready the ECMG SRT for trial. This will include writing ethics applications, repackage existing ECMG SRT materials to optimise accessibility, as well as creating templates for practitioners to support implementation and evaluation (e.g., implementation plan template, activity and reflection log templates). Finalisation of these documents will be iterative via focus groups.

In Phase 2, we will deliver the ECMG SRT programme to up to 75 nursery settings (alongside a similar number of control settings). The intervention includes regular workshops (delivered by existing team members), followed by a two term intervention (implemented by practitioners, with support from the ECMG SRT team). The ECMG SRT intervention requires children to be given opportunities for spatial thinking and spatial activities as part of their nursery provision.

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The Role and its Responsibilities

You will be responsible for leading the development work for the ECMG SRT trial, including the re-packaging of material, co-creating practitioner templates and other intervention preparation (including ethics applications). You will be responsible for managing the creation of all practitioner packs (supported by other team members). In Phase 2, you will support the delivery of workshops to practitioners and the ECMG SRT programme to up to 75 schools. Throughout the project you will support the project officer and the wider ECMG SRT team in nursery recruitment, liaising with nurseries and liaising with the independent project evaluators. You will lead on project summary reports, project reviews, and contribute to report writing, presentations, and publications.

You will be part of a strong team of experts in spatial cognition and mathematics, and in intervention research. Prof. Emily Farran directs the CogDeV lab (lead unit, University of Surrey), an internationally recognised centre for spatial-mathematics research and impact and is a member of the Centre for Educational Neuroscience (CEN) management committee, which aims to further translational research across neuroscience, psychology and education. Dr. Cath Gripton (Associate Director of the Observatory for Mathematical Education) is an expert in early years mathematics education. Dr. Sue Gifford (Chair of the Early Childhood Maths Group and Chair of the Royal Society's Advisory Committee on Mathematics Education Primary and Early Years Expert Panel) is an expert in early years mathematics education. Prof. Camilla Gilmore (Director of the ESRC Centre for Early Mathematics Learning) investigates research and practice in Early Years and Key Stage 1 mathematics.

You will be responsible to Prof. Emily Farran in the School of Psychology, University of Surrey. The post will be based in the Department of Psychological Sciences, within the University's School of Psychology, Faculty of Health and Medical Sciences.

You are welcome to contact Prof. Emily Farran (e.farran@surrey.ac.uk) if you would like further information or would like to discuss the post.

**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** |
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| A PhD (or near completion) or equivalent qualification in Psychology or a related subject | Essential |
| Experience in conducting cognitive behavioural studies and preparing data for analysis. | Essential |

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| Experience of statistical analysis | | Essential |
| The ability to write clearly and concisely with a good publication record commensurate with the level of your career. | | Essential |
| The ability to work independently, as well as proven ability to work collaboratively as part of a research team with excellent organisation and communication skills. | | Essential |
| Experience of working in a primary school, preschool or nursery or conducting research with childhood populations. | | Essential |
| Experience of reporting findings to non-academic audiences. | | Essential |
| A background in spatial cognition and / or mathematical cognition and / or cognitive intervention. | | Desirable |
| Familiarity with open science / open research practices. | | Desirable |
| Experience working with non-academic partners, preferably schools or early years settings, including recruitment, liaising with school/preschool/nursery staff and delivering teacher/practitioner training and professional development. | | Desirable |
| **Special Requirements** | **Essential/ Desirable** | **Level 1-3** |
| Eligible to work with children (an Enhanced DBS check will be required). | E | |
| Clean driving licence | D | |

**Key Responsibilities**

You will be required to

1. Contribute to the day-to-day management of the project, in line with the agreed objectives of the project to ensure that goals are achieved.
2. Communicate effectively with the ECMG SRT project team, early years settings, and the independent evaluation team.
3. Comply with ethical procedures and data protection requirements.
4. Lead on creating and adapting ECMG SRT intervention material.
5. Lead focus groups, and code and use focus group outcome data to adapt the intervention materials.
6. Support the delivery of the ECMG SRT programme to nursery settings.
7. Contribute to report writing, presentations, publications.
8. Lead the writing of project summary reports for practitioners and an end of project review.
9. Undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

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**N.B. The above list is not exhaustive**.