

## Candidate Information

**Position:** Research Fellow  
**School/Department:** Centre for Public Health  
**Reference:** 21/109119  
**Closing Date:** Monday 20 September 2021  
**Salary:** £34,304 - £40,927 per annum  
**Anticipated Interview Date:** Wednesday 6 October 2021  
**Duration:** Fixed Term

### JOB PURPOSE:

The post involves working with a multi-disciplinary team as part of a collaborative project entitled "SPACE: Supportive environments for Physical and social Activity, healthy ageing and CognitivE health". This ambitious project is funded by the Economic and Social Research Council (ukri.org).

The overall aim of this research project is to investigate the impacts, and possible mechanistic pathways, of urban environments on healthy ageing and cognitive health, and on diverse individuals and communities, through the novel integration of multi-omics, lifestyle behaviour and environmental exposures from urban environments, to ensure that we create healthy active places that are supportive, attractive and accessible to people as they age.

This researcher will use multi-omic approaches within our rich Northern Ireland Cohort for the Longitudinal study of Aging (NICOLA) resources to investigate biological responses to urban environments and related environmental exposures that influence measures of cognitive health. The researcher will primarily focus on exploring biological markers with a focus on DNA methylation analysis. Genome-wide SNP-based data, epigenome-wide methylation data and transcriptome sequencing data is already available to support analyses. A customised next generation targeted sequencing panel will be developed in collaboration with an industrial partner.

The post may involve liaising with international collaborators, collating existing data, coordinating meetings and workshops, generating new molecular laboratory data, bioinformatic analysis of data, integrating datasets, preparing regular summary reports, and taking the lead writing academic outputs and research dissemination.

### MAJOR DUTIES:

1. To assist in developing a detailed project plan to meet research objectives in accordance with best practice.
2. To conduct research under supervision within the research project.
3. To conduct statistical and bioinformatic analysis of multi-omic datasets with an emphasis on genetic and epigenetic analyses.
4. To generate new molecular data and collaboratively design a customised (multiomic) sequencing panel.
5. To ensure data is compliant with ethical and governance requirements.
6. To keep abreast of the research field and relevant developments.
7. To prepare regular summary reports for the project team and communication to stakeholders.
8. To prepare, in consultation with the project team, material for publication in national and international journals, and presentations at national and international conferences.
9. To assist with the submission of associated grant applications and the supervision of students.
10. To assist with preparation of relevant ethical and research governance documents.
11. To liaise with project partners supporting dissemination and impact activities for the SPACE team.
12. To carry out routine administrative tasks associated with this research project to ensure the project is completed on time and within budget.

### Planning and Organising:

1. To draw up a Gantt chart and plan for specific deliverables of the research project's scientific outputs.

2. To plan for the use of research resources and workshops where appropriate.
3. To plan own day-to-day activity within framework of the agreed research programme, particularly in relation to collaborative work with project partners and other components of the wider large-scale project.
4. To plan to meet deadlines for journal publications, project meetings, and to prepare presentations and papers for conferences.
5. Coordinate and liaise with other members of the research group and project team regarding progress.

**Resource Management Responsibilities:**

1. To ensure research resources are used in an effective and efficient manner.
2. To provide support and guidance as required to staff and students assisting with the research.

**Internal and External Relationships:**

1. To liaise on a regular basis with colleagues, students and key stakeholders.
2. To maintain existing and establish new internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. To maintain existing and establish new external networks to share information and ideas.
4. To contribute to the School's outreach programme by maintaining existing and establishing new links with local community groups.

**ESSENTIAL CRITERIA:**

1. Have or about to obtain a PhD in a relevant discipline.
2. At least 3 years' research experience and skills relevant to this project.
3. Experience working with genetic and epigenetic data, and / or statistics for molecular biology, and / or molecular bioinformatics or other fields relevant to the post.
4. Experience generating molecular data in a laboratory from human DNA or RNA.
5. Experience of project management, delivering research outcomes, and proven ability to work in a multi-disciplinary environment as part of a research team.
6. Good presentation and publication track record commensurate with the stage of career.
7. Excellent IT skills e.g. Microsoft Office suite.
8. Excellent organisational and leadership skills.
9. Excellent inter-personal skills.
10. Excellent oral and written communication skills.
11. Evidence of ability to write reports and meet deadlines.
12. Evidence of ability to deal competently with administrative tasks and contribute to broader management tasks.
13. Clear and confident communicator.
14. Ability to give formal presentations.
15. Ability to work independently and on own initiative.
16. Ability to act decisively and confidently.
17. Access to transport and willingness to travel to meet the needs of the post.
18. Ability to work outside normal hours when necessary.

**DESIRABLE CRITERIA:**

1. First or Upper Second Class Honours Degree in a relevant discipline, a Master's degree and / or relevant professional qualification.
2. Experience working with relevant data protection guidelines and requirements.
3. Experience conducting epigenome-wide association studies, polyepigenetic scores or epigenetic clocks.
4. Experience conducting multi-omic analysis with a focus on SNP, methylation and transcriptomic datasets.
5. Experience with next generation sequencing.
6. Experience conducting Mendelian randomisation.
7. Experience working within consortia.
8. Experience developing a funding proposal.
9. Proven ability to participate in or initiate collaborative research.
10. Evidence of having co-ordinated a research project to successful completion.
11. Strong commitment to a career in Research.