Candidate Information

Position:	Research Fellow in Molecular Analysis of Barrett's Oesophagus
School/Department:	Centre for Public Health
Reference:	19/107965
Closing Date:	Thursday 2 January 2020
Salary:	£33,797 - £36,914 per annum.
Duration:	This post is available until 31 January 2021.

JOB PURPOSE:

This one year post, funded by a Cancer Research UK Early Detection Primer Award, involves working with a multi-disciplinary, multi-centre team to help evaluate the molecular age of Barrett's oesophagus in a population-representative sample of patients spanning paediatric to older age groups.

Barrett's oesophagus is a pre-malignant condition for oesophageal adenocarcinoma, which is a Cancer Research UK 'Cancer of Unmet Need'. Novel biomarkers are required to identify patients at the highest risk of progression, to enable earlier detection of any neoplastic progression. By combining genome-wide DNA methylation data and computational analyses, it is now possible to quantify a molecular 'clock', reflecting duration of Barrett's oesophagus at the time of incident diagnosis. This project will demonstrate feasibility and generate pilot data to further validate molecular age as a biomarker of Barrett's progression.

The post will involve project management and tracking of formalin-fixed paraffin-embedded (FFPE) samples of Barrett's oesophagus identified for the study. This will require close liaison with the Northern Ireland Barrett's register team, Northern Ireland Biobank and study pathologists. Following pathology review and DNA extraction by collaborators, the research fellow will work closely with the study team to be trained and have responsibility for the methylation analysis of all samples, and computational analysis of the methylation data. The post holder will acquire skills in project management, laboratory techniques, large data analysis, and will also have primary responsibility for the writing of the resulting publication.

MAJOR DUTIES:

1. Project management and tracking of formalin-fixed paraffin-embedded (FFPE) samples of Barrett's oesophagus identified for the study.
2. To liaise closely with study collaborators, who are based across the Centre for Public Health and Centre for Cancer Research and Cell Biology at Queen's University Belfast, and Queen Mary University of London.
3. To conduct methylation analysis of Barrett's oesophagus samples.
4. To conduct computational analysis of the methylation data.
5. To develop standard operating procedures as required.
6. To take the lead on data harmonisation procedures and ensure data is compliant with ethical and governance requirements.
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.
10. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
11. To assist with preparation of relevant ethical and research governance documents.
12. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. To plan for specific deliverables of the research project's scientific outputs.

2. To plan own day-to-day activity within framework of the agreed research programme.
3. To plan to meet deadlines for journal publications and to prepare presentations and papers for conferences.
4. 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 and external contacts and participate in networks for the exchange of information and to form relationships for future collaboration.
3. To contribute to the School's outreach programme.

ESSENTIAL CRITERIA:

1. Have or be about to obtain PhD in relevant discipline.
2. At least 3 years' recent research experience and skills relevant to this project.
3. Experience of project management, delivering research outcomes, and proven ability to work in a multi-disciplinary environment as part of a research team.
4. Good presentation and publication track record commensurate with the stage of career.
5. Evidence of ability to write reports and meet deadlines.
6. Ability to contribute to broader management and administrative processes.
7. Sufficient breadth and depth of specialist knowledge in research methods and techniques pertinent to this project.
8. Excellent IT skills e.g. Microsoft Office suite.
9. Excellent organisational skills.
10. Excellent inter-personal skills.
11. Excellent oral and written communication skills.
12. Evidence of ability to deal competently with administrative tasks and contribute to broader management tasks.
13. Ability to communicate complex information clearly.
14. Ability to build contacts and participate in internal and external networks.
15. Ability to give formal presentations.
16. Ability to work independently and on own initiative.
17. Ability to act decisively and confidently.
18. Access to transport or ability to meet the mobility requirements of the post and a willingness to travel to meet the needs of the post.
19. 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 conducting methylation analysis.
3. Experience conducting computational analysis of large datasets.
4. Experience of Barrett's oesophagus or cancer research.
5. Experience of working with FFPE tissue.
6. Proven ability to participate in or initiate collaborative research.
7. Evidence of having co-ordinated a research project to successful completion.
8. Strong commitment to a career in research or Public Health.