UKRI Policy Fellowships 2023: Fellowship Opportunity Description

Fellowship Title: Scottish Government Tackling Infections Bioscience Fellowship

Host Organisation: *Scottish Government*

Host Team: *Science and Evidence Unit, Central Analysis Division.*

Summary: *Opportunity to create a unique central database of infectious organisms/pathogens isolated and biobanked from multiple species: humans, animals and plants, across Scotland to inform future policy and research*

Fellowship Theme: *Building a Secure and Resilient World, Tackling Infections*

Policy Topic: *Risk and resilience to infectious diseases; "One Health"; pandemic preparedness*

Research Council: *BBSRC*

Academic Discipline/s: *Bioscience, Data science*

Research Career Stage: *open to early and mid-career researchers*

Fellowship Structure

Inception Phase:

Estimated Start Date: October 2023. *Exact date to be confirmed by the host depending on onboarding and security clearance requirements*
Duration: 3 months
FTE: 0.4 FTE

Main Placement Phase:

Duration: 12 months
FTE: 0.6-1 FTE

Knowledge Exchange Phase:

Duration: 3 months

FTE: 0.4 FTE

Work Arrangements

Location Requirements: *Location neutral but would anticipate some attendance at St. Andrews House in Edinburgh and Atlantic Quay in Glasgow at relevant points throughout the fellowship.*

Hybrid Working: W*orking 1-2 days a week from the office in either Glasgow or Edinburgh*

Security Clearance: Basic Personnel Security Standard checks (BPSS), usually takes around 6 weeks. We would expect the successful applicant to start the security clearance application process, with support from the host team, as soon as their Fellowship has been confirmed by ESRC. Ideally the security clearance process would be completed before the inception phase begins. See National security vetting: clearance levels - GOV.UK (www.gov.uk).

Fellowship Opportunity Description

Collating and analysing Scottish surveillance data on infectious organisms/pathogens in order to build a Secure and Resilient World through Tackling Infections.

Background

Many organisations across Scotland undertake surveillance activities on infectious organisms/pathogens from multiple sources including humans (in hospitals, other public-funded sites, and in the community), animals (livestock and fish, companion, and wildlife), plants, crops, and trees, and the environment (fresh and marine waters, soils etc.). Approaches to identifying infectious organisms/pathogens includes passive and occasionally active surveillance

strategies, sampling for diagnostic purposes and investigation of disease outbreaks. These activities have generated large datasets on infectious organisms/pathogens which have been often largely unexplored, both temporally and spatially, as the purpose of the sampling has been limited to specific projects or channels for information. In some cases, biological materials from the surveillance/sampling have been maintained in culture collections/biobanks and are therefore available for potential further research. The Scottish Government (SG) provides funding for much of the surveillance/sampling activities for infectious organisms/pathogens and yet there is currently no central source of information on the data produced and on the biological materials stored. Collation and exploration of these existing resources has the potential to tackle infections in multiple species, to address the "One Health" agenda, and to inform policymakers, academics and industry in preparations for future pandemics.

Aim

The aim of the project is to provide information that may be used to tackle infections in multiple species through analysis of existing data and identifying opportunities to use culture collections/biobanks for future genomic studies to inform pandemic preparedness.

Objectives and activities

1. The project will collate existing data on the infectious organisms/pathogens that have been identified from multiple sources using public funding. This will involve identifying organisations as the sources of data, recording the design of the surveillance/sampling activity – including the pathogen identified and species sampled etc., manipulating data for analysis, and mapping the infectious organisms/pathogens by year and geographical location. The Fellow will be involved in deciding on the scope of the project which may be defined by available time – e.g. to focus on zoonotic pathogens specifically, or to focus on the most important/prevalent pathogens in each host species/environmental location, and to focus on a specific number of years retrospectively.

2. The project will identify the organisations holding culture collections/biobanks and will create a database of isolates/strains/variants that could have potential use for genomic studies including Whole Genome Sequencing (WGS).

The fellow will have the opportunity to co-design clear research tasks in collaboration with officials in government based on policy needs and the fellow's interests/skills during the inception phase of the fellowship.

Outputs/impact

1. Collation of existing data on the infectious organisms/pathogens that have been identified from multiple sources will form a report for the Scottish Government and a peer-reviewed publication. The information will also be fed back to all organisations involved in infectious disease research, including those who provided the data. This will provide, for the first time, an integrated report of infectious organisms/pathogens identified across Scotland.

2. The work on the culture collection/biobank database will provide a resource for "Open Science" and which may identify emerging/re-emerging pathogens, including drug-resistant isolates, thus contributing to reducing anti-microbial/other drug resistance and pandemic preparedness.

Benefit to the Fellow

The Fellow will work with the analytical group within SG and will gain skills in data manipulation, analysis and reporting. He/she will interact with many policy groups including Public Health Scotland, NHS, Marine Scotland, Animal Health and Welfare, Food Standards Scotland, SEPA, NatureScot, and with external organisations holding data and collections. He/she will draft reports/publications and will undertake communications to stakeholders.

Person Specification

Essential Criteria

- A proven academic track record in data management; including inputting, retrieving and manipulating large datasets from multiple data sources.
- Subject matter interest and expertise in data science (especially the field of 'Open Science') to ensure that scientific research data is accessible to all.
- Excellent communication skills, including the ability to confidently liaise with various stakeholders across multiple organisations and to report project findings in both written documents and oral presentations.
- Highly proficient time management skills to ensure that project deadlines are consistently achieved.
- Access (or skills / ability to access and engage) academic networks of relevance.

Desirable Criteria

- Prior experience of working in the field of infectious diseases.
- Previous project management experience.

- Experience of forming and developing influencing relationships with key stakeholders, both internal and external.