UKRI Policy Fellowships 2023: Fellowship Opportunity Description

Fellowship Title: *10DS Improving Outcomes - Data and Evaluation Fellowship*

Host Organisation: *No.10 Downing Street, Cabinet Office*
Host Team: *10DS (No.10 Data Science Team)*

Summary: Opportunity to use machine learning to further the use of evidence in policy making and developing government strategy.

Fellowship Theme: Data and Evaluation *Please see the full call text 'What We Are Looking For" for a detailed summary of the research themes targeted in this call.*

Policy Topic: This fellowship should focus on building out methodology for drawing from interdisciplinary approaches, research, and data to inform government policy and spending to improve outcomes for citizens. We hope to be able to develop interoperable methods, but a fellow could choose to focus efforts in a primary area of government policy such as health, social care, welfare, crime & justice, education & early years, energy & environment.

Research Council: ADR UK/ESRC

Academic Discipline/s: Data Science, Machine Learning, multidisciplinary methods

Research Career Stage: The opportunity may be best suited to an early career researcher.

Fellowship Structure

Inception Phase:

> **Estimated Start Date**: October 2023, subject to security clearance timelines. *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: 10DS is London based, and therefore some ability to travel to London to co-locate with the team would be beneficial but can be done remotely. *Eligible T&S costs are supported via the main UKRI grant. Please see full call text and guidance for more details.*

Hybrid Working: Hybrid working is welcomed. No specified expectations on pattern.

Security Clearance: This post requires security clearance (SC), as per No.10 general policy. Clearance can take up to 12 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. Some limited components of the inception phase may be possible to initiate ahead of final clearance, but will have significant limitations on engagement until security process is complete. See National security vetting: clearance levels - GOV.UK (www.gov.uk).

In addition, this post holder will need to become an accredited researcher of the Office of National Statistics (ONS) Secure Research Service (or other ADR UK Trusted Research Environment) in order to access linked administrative

data. As well as, once the project is agreed, submitting a research project application for accreditation. We can support in preparation and completion of this accreditation.

Fellowship Opportunity Description

Apply for funding to spend a year collaborating with 10 Downing Street's data science team (10DS).

Formed in mid-2020, 10DS has a remit to radically improve the way in which key decisions are informed by data, analysis and evidence. We do this by:
1. Enabling No10 to utilise the best available evidence by combining cutting-edge data science with clear, engaging communication throughout the policy and decision-making process, ensuring that the Prime Minister and staff are intelligent customers of analysis, and embedding a culture of evidence-informed policy
2. Provoking positive change across central government through providing challenge and feedback, and collaborating across Whitehall to drive long-term systems change and collectively solve the most pressing policy challenges

About this role:
Academics and public service organisations, including governments, routinely test, evaluate, and publish results exploring the drivers of poor outcomes, and interventions that impact them. Often, policy makers struggle to access, at the pace necessary, relevant evidence relating to policy interventions and their efficacy in driving desired outcomes. There is more that data scientists and researchers can do to make this information accessible and engaging for policy makers.

10DS has initiated a number of work strands aimed at investing in better systems and approaches to making relevant efficacy, evaluation, and impact analysis available in an engaging way, when it is most needed.

We are looking for researchers with experience in machine learning techniques to help develop novel solutions to providing and engaging policy makers with better evidence when designing new government policy and strategy, and designing methods for mining administrative data sets to answer complex questions about the impacts of policy and interventions.

We are looking for a creative candidate who is able to bring techniques and ideas from their field of expertise to shape and innovate in how we approach policy design and decision making. A project in this space may work to further develop natural language processing approaches to mass consumption of key inputs from academic journals, development of evaluation and assessment algorithms to standardise assessments across policy areas, or utilising linked administrative data sets like the Longitudinal Educational Outcomes data to model relationships between policy inputs and critical outcomes.

A successful candidate will:

- Co-design research and produce analysis using new and existing data sources, including linked administrative data sets to inform policy in priority policy areas;
- Produce data products and resources to support ongoing use of evidence is policy making;
- Champion data science across central government and support wider knowledge exchange with researchers on effective policy collaboration and data analysis.

The main theme for this opportunity is Data and Evaluation though the successful fellow will scope, with the host, an area of focus that could also address other themes such as Improving Outcomes, Better Health, Ageing and Wellbeing, Creating Opportunities or Building a Green Future.

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.

As a co-funder, ADR UK would like to see the fellow's project make use of linked administrative data via it's Trusted Research Environments. There is more linked administrative data securely accessible for research than ever before with great potential for evaluating public policy and improving outcomes. ADR UK's brochure is an accessible document to understand what data is currently available and the potential of this data.

Person Specification

Applications will be assessed against the following opportunity-specific requirements in addition to the generic eligibility and call criteria.

We welcome applicants from all fields of specialisation but are especially interested in applicants with experience of Machine learning techniques such as:

- Natural Language Processing using transformer neural networks
- Network Graph analysis
- Productionised decision making
- Computer vison

Essential Criteria:

You must:

- Have a PhD or equivalent experience;
- have relevant quantitative analytical experience;
- Have strong numeracy and experience deploying a range of analytical techniques;
- Have excellent communication skills with the ability to translate complex information into meaningful, easily understood narratives;
- Have a strong interest in use of data and evidence to drive better outcomes
- Have an interest in exploring novel data visualisation and data product approaches to engaging consumers of analysis;
- Show a willingness to provide knowledge transfer and skill development within the organisation or across government.