



The
Alan Turing
Institute

ESRC/Alan Turing Institute Joint Fellowship Scheme

Summary

The Economic and Social Research Council (ESRC) and The Alan Turing Institute are pleased to announce a Joint Fellowship Scheme aimed at driving forward the development and application of cutting edge data science to study major societal challenges.

This first joint call will focus on two key and interlinked issues: the complex challenges (a) facing the development of cities and (b) in maintaining a healthy population. These are multifaceted challenges that lend themselves to the novel development and deployment of advanced modelling techniques.

Proposals are welcome from mid-career¹ and senior academics from an RCUK eligible Research Organisation (RO)². Up to two studentships³ will be attached to each Fellowship and it is expected these will work in cognate areas to that of the Fellow. The Fellow will act as the primary supervisor helping in particular to develop the quantitative and data science skills of the students.

Fellows are invited to submit proposals for up to 36 months, a minimum of 50% time commitment over the period of the grant will be required from the Fellow.

Please note: The ESRC will fund 60% of the Fellow's salary at 80% fEC and the RO is expected to fund the remainder of the salary cost of the time committed to the Fellowship. (Please refer to the FAQs document for further details)

Proposals need to be submitted to the ESRC by **no later than 16:00 on 21 September 2017**.

After peer review, successful applicants will be **invited for interviews taking place on 19 October 2017**

Funding decisions will be available during **November 2017** and the Fellowships are expected to **start no later than 1 April 2018**.

We are anticipating supporting up to three fellows, dependent on quality of the proposals.

¹ Mid-career academics should have a minimum of four years' academic research experience following the submission of their PhD, or be of equivalent professional standing. This period is measured between the initial submission date of the PhD thesis and the submission date of the proposal. Career breaks will be excluded from the four-year period and periods of part-time academic employment can be calculated on a pro-rata basis

² RCUK Eligibility can be found on the RCUK website:
www.rcuk.ac.uk/funding/eligibilityforrcs/

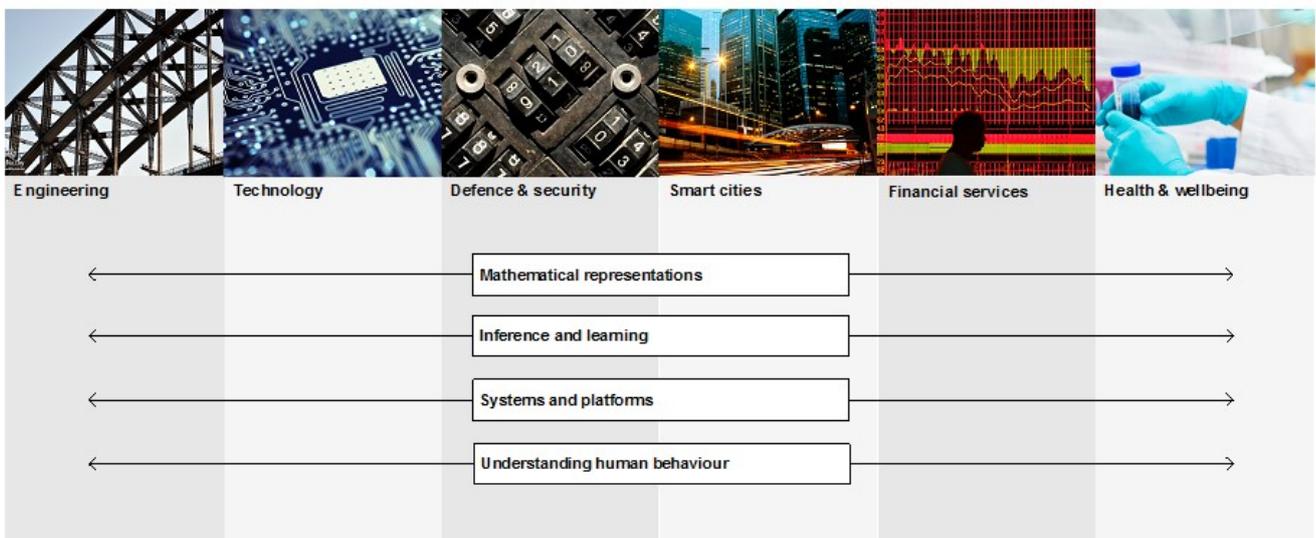
³ Students must meet standard ESRC academic and residential eligibility requirements. Further information on eligibility can be found on the ESRC website: www.esrc.ac.uk/skills-and-careers/studentships/prospective-students/am-i-eligible-for-an-esrc-studentship/

Background and scope

The Alan Turing Institute is the national institute for data science, headquartered at the British Library. Five founding universities – Cambridge, Edinburgh, Oxford, UCL and Warwick – and the UK Engineering and Physical Sciences Research Council created Turing in 2015 in order to drive forward both the theoretical development of data science and its practical application to real world problems. Further information on the Institute's work can be found at <https://www.turing.ac.uk/>

Turing is committed to interdisciplinary research. It aims to be peopled by a wide range of scholars with an interest in data intensive research who will work together to tackle scientific challenges. Following an extensive scoping process in 2015, Turing identified a number of research areas as strategic priorities, contained in the matrix below. The horizontals in the matrix represent Turing's foundational strengths, and the verticals represent the core application areas. Four application areas are supported by strategic partners (Lloyd's Register Foundation for Data-Centric Engineering, Intel for Computational Technology, Government Communications Headquarters (GCHQ) and Ministry of Defence (MOD) for Defence and Security and HSBC for Financial Services) and Smart Cities and Health and Wellbeing are likely to be supported by a consortium of partners.

Turing is in the process of refining these strategic priority areas into specific scientific challenges and in publishing the details of its emerging research projects and interests. Follow [turing.ac.uk](https://www.turing.ac.uk) for updates, and for further information on the Turing's initial strategy work, go to <https://www.turing.ac.uk/news/the-alan-turing-institute-shaping-our-strategy/>



The ambitions of Turing align very closely with those of ESRC which has a long held strategic objective to strengthen the quantitative and data science skills base across the UK social science research base. The growing advent of big data and the need to look at new ways to analyse such data has added further impetus to the need to build new research capacity in this area. A partnership with Turing is seen as an integral and innovative part of this broader strategy.

Call details

Research priorities

The research priorities identified by Turing in its research matrix speak very directly to the interests of social science, as do the cross-cutting methods highlighted to address the complex challenges that they represent. In the first call we have decided to focus on two of the priorities - smart cities and health and well-being - where interlinked and multi-faceted interdisciplinary challenges lend themselves to the novel development and deployment of advanced modelling techniques. We would invite proposals in these two areas or any which straddle both.

Smart cities

Urban spaces have long been the focus of research for academics in the social sciences. Scholarship in areas such as economics, political science and sociology has focussed on issues in urban contexts such as poverty, health, employment and the link between place, poverty and crime. Big data analytics has also been used to look at the urban environment - urban contexts generate large volumes of data which, in principle, could be used to explore, challenge and refine some of the models and hypotheses in less quantitatively oriented approaches to the study of urban environments. Big data can also equally promote and drive the development of new conceptual models which take holistic or whole systems approaches to major urban challenges, integrating a wide variety of data sources from, for example transport and commuting through flexible working and changing leisure behaviours and linking this to air and water quality measures.

The opportunity for social scientists interested in cities to work in Turing is timely as it allows cutting edge work in big data analytics to be brought together with established work on cities. This holds the promise of fresh methodological perspectives on established areas of work. This cross-disciplinary working should also help to develop and guide the development of the analytical techniques that data scientists apply to urban data and its linkage with other forms of data such as health data. Social science can help to guide the development of algorithms to develop well-grounded and theoretically mature explanations of the datasets in question. This in turn will provide insights from the data that are understood in the context of a broader social scientific model of urban spaces as opposed to interesting, but isolated, insights into specific datasets.

Health and well-being

The health of the nation is influenced not just by biology but also by the social, economic and environmental contexts we live in. Big data offers the possibility to measure health and well-being through data available from a range of sources, for example from social media, the environment (funding data on cities such as air pollution, bus routes etc.) as well as more traditional healthcare data. Healthcare settings are rich in data (such as readouts from medical equipment, registry data, through to notes taken by health practitioners), though the storage and articulation of that data can present a challenge. Such data may open new ways of exploring health and healthcare.

Big data analytics in the context of healthcare systems offers potential benefits in terms of the efficiency and effectiveness of services. It also holds out the promise of providing a firmer evidence base from which challenges and opportunities can arise for current models of healthcare research. Yet issues of consent and privacy are a particular concern in this field which may mean that exploiting some data becomes highly problematic.

For both themes, the opportunity for social scientists to work at Turing is important both in terms of what the social scientist can bring to the data scientist's view of an area and vice versa. In the interaction between the researchers ideally:

- both would be challenged

- the field of enquiry would be broadened and better understood
- tangible benefits, both academic and non-academic, could result from the work.

Main purpose and expectations of the Fellowship

The main purpose of the Fellowship is:

- to develop a research programme and conduct outstanding, creative and innovative research in data science, to develop internationally-significant outcomes through high-impact publications
- to collaborate with others across Turing and the broader data science community, towards outputs and outcomes that yield significant academic, societal or economic impact
- to play a role in advancing the strategic objectives of Turing and ESRC
- to achieve research excellence as appropriate to the applicant's discipline
- to help build new research capacity in data science through training of the proposed associated PhD students
- to help broaden and deepen the interdisciplinary research base of Turing through building a critical mass of social scientists at Turing.

We want the successful candidate to use the Fellowship to:

- generate and pursue original research ideas, design and conduct a successful programme of investigation and develop innovative, world-class research
- publish research in high-quality peer-reviewed national and international journals. Present research results at national and international meetings, conferences, seminars and workshops
- take part in knowledge exchange and/or translation activities as appropriate; for example: collaborative working with Turing's partners, or with government departments/policy-makers, and on public engagement, policy events, etc.
- advance their own professional development, with support from Turing and host partner university.
- build additional capacity in data science through the supervision and training of PhD students.

To fulfil these duties the Fellow is expected to spend a considerable amount of their dedicated time on the Fellowship at Turing headquarters in the British Library, London. This is seen as critical to developing links and potential further collaborations, promoting multi-disciplinary thinking at Turing, and in providing the necessary support for the PhD students that will be attached to the Fellowship.

Reporting requirements

In addition to the standard ESRC reporting requirements⁴, a minimum degree of reporting to Turing by the Fellow is expected on an annual basis. The Fellow will prepare and submit an annual summary of the progress made towards fulfilling the objectives of the Fellowship. The Fellow will meet with an appropriate representative from Turing to review progress. A report on the conduct and outcome of the research must also be submitted by the Fellow within three months of the end of the award period.

Associated studentships

Studying at the Turing offers students a unique opportunity to undertake a data science-focused PhD in a multidisciplinary environment, where over 100 experts (<https://www.turing.ac.uk/faculty-fellows/>) from different research disciplines work side-by-side to solve problems, generate ideas and transform research into real-world impact.

⁴ ESRC Reporting outcome information using Researchfish:
www.esrc.ac.uk/funding/guidance-for-grant-holders/reporting/

To help build new capacity in this rich environment, up to two studentships will be attached to each Fellowship proposal. It is expected that these will work in similar areas to that of the Fellow but must provide the opportunity for a distinct and independent course of enquiry for the student and the Fellowship should still be viable without the studentship. The Fellow will act as the primary supervisor helping in particular to develop the quantitative and data science skills of the students. Secondary supervisors may be from other ROs who form part of Turing.

Students need to be registered on an ESRC Doctoral Training Partnership (DTP) www.esrc.ac.uk/skills-and-careers/studentships/postgraduate-strategy/doctoral-training-partnerships/ or Centre for the Doctoral Training (CDT) www.esrc.ac.uk/skills-and-careers/studentships/postgraduate-strategy/centres-for-doctoral-training/ training pathway at the same RO of the Fellow. However, to maximise the benefit of being part of Turing students are expected to spend the majority of their time at the Turing headquarters at the British Library. It is anticipated that each student will spend up to 30 weeks or three terms at their host research organisation.

For those students who already have an MRes or equivalent, 3.5 years of funding will be available. For those who do not, there will be a requirement for the students to complete their MRes at their host RO before commencing on the +3.5 years and therefore an additional year's funding will be available. This will enable the student to complete the core social science training set out in the ESRC Postgraduate Training and Development Guidelines. In these instances we would expect the student to spend longer at the host RO they are registered with.

For more detailed information on eligibility to apply for associated studentships and the terms and conditions governing them please see **Annex I**.

Fellowship funding

We view these Fellows as a way of building data science across the social science base within the UK, and recognise that many ROs are already creating their own capabilities in this area. We therefore see this as an opportunity for the ESRC and Turing to partner with those ROs. For this reason, it is expected that half of the salary costs of the Fellowship be met by the host institution.

The grant for the Fellowship will be issued and managed by the ESRC in accordance with our normal Research Funding Guide (www.esrc.ac.uk/funding/guidance-for-applicants/research-funding-guide/) and procedures as stated on the website. Proposals should be costed on a full economic cost (fEC) basis. Turing will provide dedicated facilities for the Fellow and PhD students at its headquarters at the British Library, London.

Please Note the following exceptions to the standard research funding guidelines:

- **Fellow salary costs**

A minimum of 50% time commitment over the period of the fellowship will be required from the successful applicants. The ESRC will pay 60% of the Fellow's salary costs that are associated with the Fellowship, at 80% fEC (this is commensurate with half the 100% fEC of the Fellows salary). The RO is expected to fund the remainder of the Fellowship-associated salary cost. (Please refer to the FAQs for further information).

- **Travel and subsistence**

ESRC will allow travel and subsistence costs to be claimed for the commute between the host RO and Turing. This will be dependent on the location of the host RO (please refer to the FAQs for further information).

Costs for travel and subsistence to attend conferences or events can also be claimed through the Fellowship. However, these must be integral to the Fellowship and not associated with any costs that may be covered by Turing (see 'Turing internal funding schemes' below).

Turing internal funding schemes

In addition to costs submitted to ESRC through the proposal, the Fellow will also be able to apply, on a competitive basis, to Turing's internal schemes for the following costs:

- **Visiting research in small groups**

The aim is to collaborate with researchers outside Turing. There will be an opportunity to apply to Turing for additional funding to support visiting researchers through their internal competitive schemes. A maximum budget of £4,500 per annum can be submitted for supporting visiting researchers.

- **Turing sponsored workshop costs**

Funding of up to £3,000 per workshop is available to help support workshops that are running as part of an external event e.g. meeting or conference. In addition, researchers may request the use of Turing event space, meeting rooms, and logistical support from the events team. All proposals must be reasonably costed in accordance with available guidelines and all costs must be fully justified.

- **Turing workshop costs**

Funding of up to £10,000 per workshop is available to support standalone data science workshops including for the travel and subsistence of external speakers and organisers, catering costs and consumables. In addition, researchers may request the use of Turing event space, meeting rooms, and logistical support from the events team. All proposals must be reasonably costed in accordance with available guidelines and all costs must be fully justified.

- Applying through the Turing internal schemes will provide the successful Fellow with the same opportunities available to other Turing Fellows.

Studentship funding

Funding will be provided for two studentships attached to each fellowship. The amount of funding provided will be as follows:

MRes

- Students required to complete an MRes prior to commencing their PhD will be based at their host RO and paid at the standard ESRC rates (www.esrc.ac.uk/skills-and-careers/studentships/prospective-students/what-is-an-esrc-studentship-worth/) .

Doctoral

- Doctoral stipend: the stipend will be paid at: £20,500 per year (subject to annual increases). This includes London Weighting and is higher than the standard ESRC stipend to ensure it is commensurate with other students at Turing.
- Fees: will be paid at the RCUK level. Current fee levels can be found at www.rcuk.ac.uk/skills/training/
- The student will be able to claim up to £2,600 for materials/computer purchase. All students are required to purchase a new computer as specified by Turing to ensure compliance with their security requirements.
- The student will be reimbursed by Turing for travel and subsistence to conferences and meetings up to the value of £2,000 pa.
- The student will be able to claim a fixed allowance for travel, and where appropriate, accommodation between Turing and host RO. This may vary depending on the location of the home institution.

Further information on Associated Studentships can be found in Annex I.

Security screening

Working at Turing will allow access to the systems and information of both the Institute and its partners, misuse could carry significant risks in terms of breach of relevant data protection obligations and reputational damage. As the national institute for data science, we take very seriously the appropriate protection of data and information, and the intent of the security checks is to undertake all reasonable steps to protect ours and our partners' data and information. Everyone engaged with Turing, including Fellows and PhD students and operations staff will undergo the same security checks before working here. The checks will be carried out via a third party organisation called Agenda Security Screening and will include the following components: identity confirmation, five year employment history, sanctions and Politically Exposed Person (PEP), deep web internet mining (Open Source Intelligence; OSINT), UK criminal check and Basic Disclosure Scotland (DBS). Any award will be conditional upon the Fellow and students agreeing to undergo and passing these checks to the satisfaction of Turing.

How to apply

Proposals are welcome from mid and senior career academics who can demonstrate experience of supervising PhD students. Applicants must provide demonstrable evidence of their existing skills in the use of quantitative techniques and clearly describe how they envisage these will be developed by working at Turing and through their application to one or both of the two research priorities. The expectation is that the applicant will be able to show how their research programme will show impact through advancing scientific knowledge and direct application to real-world challenges.

The principal investigator should be from a research organisation eligible for ESRC funding. The host research organisation should also be part of a Doctoral Training Partnership or Centre for Doctoral Training.⁵

Proposals need to be submitted to the ESRC by **no later than 16:00 on 21 September 2017**.

All proposals **must** be made on the **Je-S Proposal Form**, which is available at:
<https://je-s.rcuk.ac.uk/JeS2WebLoginSite/Login.aspx> .

Je-S is the electronic submission system which is used by all Research Councils to provide a common electronic system that supports research administration. More detailed information can be found at <https://je-s.rcuk.ac.uk/>. **In particular, applicants should note the registration requirements for making a Je-S submission.** Please also refer to the Je-S Guidance for this scheme in conjunction with this Call Specification.

Only those proposals submitted through the Je-S system will be accepted for processing. The proposal submitted through Je-S will be taken to be the final version, and will be the version used for external peer assessment.

What we will do with your information

In accordance with the Data Protection Act 1998, the personal information that you provide within the Expression of Interest will specifically be used for the purpose of administering this call. The information will be viewed by ESRC and the Turing staff and selection panel members, and your information will not be used for any other purpose without your specific consent.

⁵ Doctoral Training Partnerships Networks
www.esrc.ac.uk/skills-and-careers/studentships/postgraduate-strategy/doctoral-training-partnerships/
Centres for Doctoral Training
www.esrc.ac.uk/skills-and-careers/studentships/postgraduate-strategy/centres-for-doctoral-training/

For further information on how your information is used, how we maintain the security of your information, and your rights to access information we hold on you, please contact the Joint Information Services Unit (jis@epsrc.ac.uk).

Commissioning timetable

- Open date for proposals - 19 May 2017
- Closing date for proposals - 16:00 on 21 September 2017
- Interviews and panel meeting - 19 October 2017
- Fellowship Start Date - 1 April 2018
- Studentships Start Date - 1 October 2018

Contacts

If you have any questions or would like further information about the scheme, contact:

- Henna Patel
Email: henna.patel@esrc.ac.uk
Telephone: 01793 411914

Enquiries relating to technical aspects of the Je-S form should be addressed to:

- Je-S helpdesk
Email: jeshelp@rcuk.ac.uk
Telephone: 01793 444164