British Heart Foundation

Joint Call

EXPLORING NOVEL OPPORTUNITIES FOR DATA SCIENCE IN CARDIOVASCULAR RESEARCH

The Alan Turing Institute

Joint Funding Call
BHF/Turing Cardiovascular Data Science Awards

Guidance Notes for Applicants

The British Heart Foundation (BHF) and the Alan Turing Institute (the Turing) invite proposals from cross-disciplinary teams of researchers working in partnership to apply data science approaches to challenges faced in cardiovascular research.

For completeness, these Guidance Notes contain all information about the call (also found on the Turing website) as well as essential guidance for applicants.

Contents

Background

Cardiovascular disease kills around one in four people in the UK, taking the lives of more than 100 people under 75 every day, and affects the daily life of 7 million people. Modern data science offers new ways of gaining valuable insight into the aetiology and treatment of cardiovascular disease, towards ending the devastation that it causes.

Over recent years we have experienced a transition into an era of digital medicine, typified by advances in technology and an exponential increase in the generation of new datasets, many of which are characterised by their volume, variety, and complexity. Such datasets include, but are not limited to, molecular data generated by 'omics technologies, medical imaging data and health data derived from patient records. The application of data science approaches and innovative analyses of these datasets have the exciting potential to improve the diagnosis, treatment, and prognosis of patients across medical disciplines. Conscious that responsible medical research requires patient privacy and anonymity are upheld, data science innovations around privacy and anonymization are also an important contribution to this field.

Scope

This joint call between the BHF and the Turing aims to catalyse productive collaborations between cardiovascular investigators and specialist data scientists. It is designed to enable groups of researchers with complementary skills and expertise to explore opportunities at the nexus of cardiovascular research and data science research.

Proposals are invited from multi-disciplinary teams for small (≤£50,000) or medium scale (£50,000-£150,000) projects[1] with a demonstrable synergy between data scientist(s) and cardiovascular investigator(s). Proposals must be innovative in nature, utilise existing data (that is fully consented and anonymised) and clearly explain the potential impacts of the work for cardiovascular and data science.

The research undertaken may include foundational research (where the aim is to generate new knowledge and understanding in cardiovascular science) or focus on translational application. While applicants may seek to address or contribute to the addressing of any cardiovascular challenge(s) that would benefit from data science approaches, the following areas have been identified as particularly important:

- Data access
- Privacy and anonymization
- Machine learning
- Image analysis
- Modelling, and statistical modelling
- Exploitation of advanced computing

Eligibility

All proposals must be co-led by one cardiovascular investigator and one data scientist. At least one of the PIs must be a senior academic researcher with a strong

[1] Please note larger projects may be submitted directly to the BHF through their regular funding schemes. This joint call is designed for smaller scale and fast paced projects.

track record of grant support and research outputs. Projects must start by 31 December 2019, which is expected to be in September 2019.

For the purposes of this call, the following institutional eligibility criteria apply:

Cardiovascular researchers:	Lead applicants must hold an appointment at an established UK academic institution with significant cardiovascular research activity. Additional cardiovascular investigators without academic affiliation may participate, but may not lead.
Data scientists:	Lead applicants must be either Turing Fellows, Turing Research Fellows[2] or situated at one of the Turing's university partners[3]. Additional scientists who are not directly involved with the Turing or its founding university partners may participate in the research team, but may not lead.

The BHF and the Turing are actively committed to promoting equality and diversity.

Funding available

Applicants may submit proposals for up to £150,000 direct costs[4] for projects of 6-24 months in duration.

Awards may include:

- Staff salaries (e.g. existing academic staff, research assistants or other research staff, technicians and other support staff). *Please note that PhD studentships cannot be supported through this call.*
- Research consumables directly attributable to the project.
- Research equipment essential for the project.
- Travel and subsistence, and other meeting costs where relevant.

[2] Researchers holding other roles at the Turing should use the contact details at the end of this call to confirm their eligibility.
[3] University of Birmingham, University of Bristol, University of Cambridge, University of Edinburgh, University of Exeter, University of Leeds, University of Manchester, Newcastle University, University of Oxford, Queen Mary University of London, University of Southampton, University College London and University of Warwick.
[4] Please note only direct costs will be covered by this grant.

How to apply

All applications must be made online via the Turing's Flexigrant portal: https://ati.flexigrant.com

Although projects must be led by two co-PIs, one from cardiovascular research and one from data science, the application form should be submitted from a Flexigrant account of a single Lead Applicant, with offline input from the co-PI and other collaborators. This is an administrative consideration; if the application is successful, both co-PIs will be recognised in the award letter.

Applicants will be required to complete the following sections on the Flexigrant portal directly or as a PDF upload to the portal, as indicated:

- Applicants' CVs and Publication List
  - *Please upload (as a single pdf) the CVs of all investigators and collaborators, in the following order: co-PIs (maximum 2 pages each); other investigators (maximum 1 page each). The CVs of co-PIs should clearly show how they meet the eligibility criteria outlined above.*
  - *Please upload (as a single pdf) the relevant publications list of all investigators and collaborators, in the following order: co-PIs; other investigators. The combined list of the applicant team should be a maximum length of 2 pages.*

- Project Summary:
  - *Please provide the title, start and end dates, and total budget of your project. Please note that successful projects must start no-later than 31 December 2019.*
  - *Please provide the amount of funding being requested for the project, with reference to the eligibility criteria above.*

- Lay Summary and Scientific Abstract: maximum 200 words each
  - *Please provide a Lay Summary of your project, suitable for a general audience. If your application is successful, this Lay Summary may be used in publicity materials for this funding scheme.*
  - *Please provide a Scientific Abstract of your project, suitable for peer review. If your application is successful, this Scientific Abstract may be used in publicity materials for this funding scheme.*

- Research Proposal: maximum 4 pages, plus an additional page for bibliographic references if needed, uploaded as a single pdf and covering:
  - *A Case for Support structured with the following headings, in order: background, aims and objectives, tools and methods, relevance and beneficiaries, and academic dissemination (please note, non-academic research impact will be covered by a later question in this application form)*
  - *A Workplan covering timeline, milestones and deliverables (this can be presented as a GANTT chart)*

- Budget: 1-page summary table of the financial details of the project, uploaded as a pdf, with the following budget lines made clear:
  - *Directly allocated costs (e.g. staff salaries)*
  - *Directly incurred costs (e.g. consumables, equipment)*

  - *Other eligible costs (e.g. travel & subsistence)*
  - *Indirect costs (e.g. overheads) – these are not eligible under the grant, but <u>must</u> be included in the budget.*

- Impact Statement: maximum 200 words
  - *We define research impact as the (non-academic) economic and societal benefits of research-related knowledge and skills to individuals, organizations, and nations. When writing your Impact Statement, please consider: knowledge exchange; routes and pathways to impact; the research beneficiaries, end-users, and stakeholders; and benefits that might be co-produced with other communities.*

- Ethics Approval
  - *Please choose from one of the following 4 options in the drop-down menu to inform us of the status of this research proposal with your institution's Ethics Committee (or equivalent): Approved, Submitted for approval and under consideration; Rejected; Not yet submitted for approval.*
  - *Please note that if your application is successful, you will be required to submit evidence of approval from your institution's Ethics Committee (or equivalent) prior to the award beginning.*

- Consent for Data Use
  - *All patient data that is to be used in research must be fully consented and anonymised: please tick this box to confirm that you have the necessary consent and anonymization in place.*
  - *Please note that proposals must utilise existing data and should not be reliant on new data collection.*

- Letter from Collaborators
  - *Please upload signed letters from your proposed collaborators confirming their intent to collaborate with you on this project, if you are successful in this application.*
  - *If you have multiple collaborators, please merge all files and upload as a single pdf.*

- Letter from Employing Organisation
  - *Please upload a letter of support from the Head of Department or from the Research Office (or equivalent), for both co-PIs and for each member of the research team, confirming that they have read this application, have approved the costs submitted, and are willing to host and manage the project and the grant should this application be successful.*
  - *Letters for both co-PIs and for each member of the research team should be combined and uploaded as a single pdf file. Each letter must confirm that: if not already covering the entire period of the project, then the contract of employment for co-PIs will be amended and/or extended as necessary to enable the successful completion of the project; the project will be given full access to the facilities, equipment and personnel as required by the application; the indicative costs included in the application have been correctly calculated with*

the support of the Research Office (or equivalent), and that the institution will cover the indirect costs associated with this application; the letter signatory is authorised to approve the submission of applications for funding, and the application has met all internal approval procedures.

Text should be single-spaced, with page margins of at least 2cm and font size no smaller than Times New Roman point 11 (or equivalent). Please note that any documents that exceed the guidelines on length, above, may be automatically truncated before being submitted for peer review.

Applications must be submitted no later than **12:00 GMT on 10th of May 2019.**
Only applications submitted through the Turing's Flexigrant system will be accepted for processing. The application submitted through Flexigrant will be taken to be the final version, and will be the version used for assessment.

Assessment

All applications will be assessed by a specially-constituted multidisciplinary Panel, against the following criteria:

- Innovative nature and added value of the proposed work
- Availability and quality of data
- Impact of anticipated outcomes
- Potential added value of combined expertise of co-investigators
- Value for money

The Panel will be chaired by Professor Neil Lawrence and Professor Andrew Morris.

What we will do with your information

The personal information that you provide within the application will specifically be used for administering this call. The information will be viewed by BHF and Turing staff and selection panel members, and your information will not be used for any other purpose without your specific consent.

Application and award timetable

Opening date for applications	11 March 2019
Closing date for applications	12:00 GMT 10 May 2019
Review panel meeting	July 2019
Application outcome notification	Mid-September 2019
Project start date	Between 1 October and 31 December 2019

Contacts

For questions regarding the application process or other elements of the call, or cardiovascular researchers looking for Turing-based data science collaborators, please contact:
Catherine Lawrence (clawrence@turing.ac.uk), Senior Programme Manager (The Alan Turing Institute).