



**FAST Assessment and Treatment of Cardiovascular Disease:
A Call for Discipline-Bridging Initiator Project Proposals
(Call 1)**

April 2017

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Summary

Cardiovascular disease is the most common cause of death globally and places particular demands on the National Health Service due to the diverse range of treatment pathways and the chronic nature of the condition. Based on the results of a workshop organised by the EPSRC FAST Healthcare NetworksPlus, a roadmap for engineering and physical sciences research to address opportunities to improve assessment and treatment of cardiovascular disease has been produced, and may be downloaded from the Network's website ¹. The Roadmap identifies the clinical need to provide safe, accurate, rapid and seamless care across the healthcare system in a way that is efficient and cost-effective through the optimised use of staff.

The aim of this Call is to build new research collaborations across disciplines and organisations which address the specific Roadmap for Cardiovascular Disease Research which the FAST NetworksPlus has produced. This should lead on to a more substantial research programme which enhances research in the UK that aligns with the EPSRC's Healthcare Technologies Theme ².

Awards are limited to a maximum of £56,000 (based on a funding rate of 80% of full economic cost) and should last no more than 12 months. It is expected that typical proposals will be for a duration of around 6 months.

About the FAST Healthcare NetworksPlus

NHS England produced a publication in its 65th anniversary year (2013) entitled '*The NHS Belongs to the People: A Call to Action*'³. It articulates the aspiration to deliver the very highest standards of patient care against the reality that the projected total cost of running NHS England will rise from £95 Bn in 2013 to £137 Bn in 2020, whilst the resource will only rise to £108 Bn in the same period. There are a number of factors that are leading to rising costs, and the Call to Action highlights poorly joined-up care between adult social care, community services and hospitals as one of these.

The *EPSRC Fast Assessment and Treatment in Healthcare (FAST Healthcare) NetworksPlus* is a response by the Engineering and Physical Sciences (EPS) community to this call. We are a network of academics with clinical, industrial and charity partners who are working to optimise treatment processes in public healthcare using an engineering methodology to develop practical solutions which can be realistically implemented. Our ability to achieve this is enabled by four years of funding from the Engineering and Physical Sciences Research Council (EPSRC).

¹ <http://www.fast-healthcare.org.uk/cardiovascular-disease-workshop/>

² <https://www.epsrc.ac.uk/research/ourportfolio/themes/healthcaretechnologies/strategy/>

³ <https://www.england.nhs.uk/wp-content/uploads/2013/07/nhs-belongs.pdf>

This is allowing us to run a series of events to bring together key stakeholders in the provision of public healthcare with members of the academic EPS and clinical communities leading to small-scale collaborative projects to seed-fund transformative research.

What We Want to Fund

The purpose of the EPSRC's NetworksPlus within its Healthcare Technologies Theme is to kick-start new research collaborations which address the EPSRC's overarching strategy for funding research in this area ². Specifically, the FAST Healthcare NetworksPlus seeks to establish new research communities around the 'Optimising Treatment' Grand Challenge. Part of this is to encourage early-career researchers to work in this area, both with each other and with more established academics. We also want to enable engineering and physical sciences researchers to work more closely with clinicians to tackle real (rather than perceived) clinical challenges, as well as business, patient groups and policy makers in this area.

For this Call, we are specifically looking for proposals which address the Roadmap for engineering and physical sciences research in the area of cardiovascular disease assessment and treatment that emerged from our recent Workshop. A full copy of the Roadmap is available on the FAST Healthcare website for download, and applicants should familiarise themselves with this. However, this is abstracted into Figure 1, whose structure is based upon the 'Three-Plane Diagram' developed by the National Science Foundation's Engineering Research Centers ⁴. It aims to show how fundamental technology couples directly with enabling engineering to address specific clinical drivers, and we expect applicants to be able to demonstrate such a coupling mapped onto this Roadmap.

Who Can Apply

Applications can only be submitted by academic and postdoctoral research staff at UK universities and associated research institutions that are eligible to receive EPSRC funding. Participation of industrial, clinical and other partners is encouraged, but they cannot receive grant funding. **At least one of the Investigators in a proposal must have attended the FAST Healthcare NetworksPlus Cardiovascular Disease Workshop held in the Electrical Engineering Division at Cambridge University on Thursday 5th January 2017.**

What We Fund

Awards are limited to a maximum value of £56,000 (at 80% of full economic cost) and must have a duration of no more than 12 months. Smaller and shorter projects are welcomed. Value for money will be one of the selection criteria, and applicants are expected to demonstrate this in their proposal. The funding is intended to cover the cost of employing a post-doctoral research associate for up to ~6 months full time equivalent with a small additional budget for consumables and reasonable travel costs associated with building a new research collaboration. Items of equipment costing more than £10,000 (including VAT) cannot be funded from the grant. There is very limited funding available to support directly allocated

⁴ <http://erc-assoc.org/content/three-plane-diagram>

staff costs. Proposals should enable a **new** research collaboration to form between participants who have not been able to formally work together before. Investigators must therefore be from different disciplines and/or different institutions. Proposals must not be dependent on other funding that has not been secured at the time of application.

How We Will Select the Project

Proposals that are within the scope of this Call (as determined by the FAST Healthcare Management Committee) will be assessed by a panel of Network members. The assessment criteria include:

- Fit with the FAST Healthcare Cardiovascular Disease Research Roadmap¹
 - Evidence that the project addresses a real clinical opportunity through engineering and physical sciences research
- Fit with the overall aims of the FAST Healthcare NetworksPlus
 - The formation of **new** research collaborations
 - The engagement of early-career researchers
- The credibility that the project would lead on to a lasting collaborative research activity involving the participants
- The academic quality of the proposal
 - Clarity of the proposal in terms of work plan and deliverables
 - Realism of the project's objectives given the scale of the project
 - Value for money
 - Ability of the academic team to deliver the project

Selected Project

The project that is selected for funding will form part of the EPSRC FAST Healthcare NetworksPlus project portfolio, and the Investigators, researchers and project will be listed on the FAST Healthcare website. To ensure the maximum impact from each grant awarded, the FAST Healthcare NetworksPlus will appoint an Evaluation Panel and Action Team to support the transfer of the project into a long-term collaborative research programme. The FAST Healthcare NetworksPlus will enter into a specific collaboration agreement including mutually agreed IP arrangements for each project.

Key Dates

- Call launch: Tuesday, 4th April 2017
- Closing date for applications: 5:00 pm on Wednesday, 3rd May 2017
- Award announced: early June 2017
- Projects are expected to start in August or September 2017

Further Information

For more details about the FAST Healthcare NetworksPlus, visit the website at www.fast-healthcare.org.uk.

How to Apply

To apply, please complete an application form and return it to ajf@eng.cam.ac.uk by **5:00pm on Wednesday, 3rd May 2017**. Copies of the application form are available by contacting the same e-mail address or via the FAST Healthcare website ⁵.

⁵ <http://www.fast-healthcare.org.uk/wp-content/uploads/2016/11/FAST-Proposal-Application-Form-Call-1.docx>