

Quick Reference

Please note that you must read the full Call document (below) for guidance before submitting your proposal

New Approaches to Data Science

Call type: Invitation for outlines

Closing date: 16:00, 24 January 2017

Funding Available: There is up to £10M available for this call and we expect to fund 3-4 programmes of research.

How to apply: Outlines followed by invited full proposals.

Assessment Process: Outlines will be considered by an expert panel, invited full proposals will undergo postal peer review, followed by an interview panel.

Key Dates:

Activity	Date
Outline call opens	11 October 2016
Information day EoI closes	25 October 2016
Information day	15 November 2016
Outline call closes	24 January 2017
Outline panel	W/b 28 March 2017
Full Call closes	W/b 19 June 2017
Interview panel	W/b 09 October 2017

Organisational requirements

Any single investigator is only permitted to appear on one proposal, either as investigator or co-investigator.

A Host Organisation Statement should be included with the outline application setting out how the host institution aims to support the applicants in creating and sustaining a culture of co-creation beyond the project end.

Contacts

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Engineering and Physical Sciences
Research Council

New approaches to Data Science

Call type: Invitation for outlines

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Related themes: Digital Economy, ICT, Mathematical sciences

Summary

Increasing areas of technology and society are becoming ever more data rich. This is creating a growing need to be able to manage, process and interpret multiple sources of increasingly complex and/or large-scale data in order to enable people to extract value, make decisions and take appropriate action.

This call aims to support new approaches to data science driven by real world challenges, with projects undertaken in close collaboration by teams of researchers from the Mathematical Sciences and/or ICT, together with researchers in other disciplines and end-users.

We are seeking to build a culture of co-creation with commitment from all partners to engage with each other throughout the research programme. In addition we expect host institutions to support the development of lasting communities in this area by catalysing long term culture change and building skills capacity. Applicants should demonstrate how their approach is new in the data science landscape, complements existing investments in data science (e.g. relevant current EPSRC grants, Alan Turing Institute, Farr Institute, etc.) and cannot be supported through them.

As the UK's national centre for Data Science, the Alan Turing Institute is enthusiastic about working with successful projects resulting from this call. More details on this can be found in the 'Aim and Scope of the call' section below.

There is up to £10 million available for this call and we expect to fund three to four programmes of research.

There will be an information day on the 15 November 2016 for applicants to ask questions about the call and network with potential collaborators. Those interested in attending are asked to complete the Expression of Interest form, which is available on the Events page:

<https://www.epsrc.ac.uk/newsevents/events/newapproachestodatascience/>.

Please note that places will be limited and you will be notified as to whether you have a place at the event by 07 November 2016. Attendance at this information day is not a pre-requisite to applying to the call and a report from the day (including frequently asked questions) will be published on the EPSRC website as soon as possible following the event.

Background

Maximising the potential of data involves bringing together all the different aspects of data science: storing data, representing data, connecting or merging datasets, analysing data, presenting data, interpreting data and ultimately taking action. This is not a linear process and in many cases these aspects must be considered together. Throughout this process the interactions between creators, developers and users of data, methods and tools are key to success.

A number of recent workshops have highlighted the research challenges associated with our ever more complex, data-driven world and reiterated the need for collaboration between researchers in data science and also with users of data, both in other areas of research, in industry and in other non-academic organisations, to ensure a grounding in real world applications.

EPSRC Cross-SAT Workshop on Big Data:

<https://www.epsrc.ac.uk/files/newsevents/events1/crosssatbigdataworkshopnotes/>

RCUK Data for Discovery Workshop:

<http://www.rcuk.ac.uk/documents/documents/rcuk-datafordiscoveryworkshopreport-pdf/>

ICT Perspectives on Big Data Analytics Workshop:

<https://www.epsrc.ac.uk/newsevents/pubs/ictperspectivesfinalreport/>

Alan Turing Scoping Workshops:

<https://aticdn.s3-eu-west-1.amazonaws.com/2015/06/The-Alan-Turing-Institute-Scoping-Programme.pdf>

Statistics and Applied Probability Review Day:

<https://www.epsrc.ac.uk/newsevents/pubs/statistics-and-applied-probability-review-day-18th-june-2014-report-and-next-steps/>

Applied Mathematics Evidence and Engagement Workshop:

<https://www.epsrc.ac.uk/newsevents/pubs/appliedmaths/>

Aim and Scope of the call

In this call we seek to support collaborative research programmes to develop new, holistic approaches to data science, driving advances in underpinning data science through real world challenges. Applicants should demonstrate how their approach is new in the data science landscape and explain how their proposal complements previous investments and current activities in this space.

Proposals are expected to cover multiple aspects of data science, but need not necessarily advance the state of the art in all areas. Proposals are expected to involve novel research linked to the ICT and Mathematical Sciences research areas, including (but not limited to) areas such as Theoretical Computer Science, Artificial Intelligence Technologies, Databases, Graphics and Visualisation, Statistics and Applied Probability, Logic and Combinatorics, Numerical Analysis, Operational Research, Information Systems and Architectures and Operating Systems.

Aspects of ethics, responsible research and innovation, trust, identity, privacy and security should be considered where appropriate.

Substantial involvement of end-users of the proposed research from the beginning is essential to enable the programme to be grounded in a real world context, and to promote transfer knowledge and expertise.

The aim of this call is to build a culture of co-creation and thus we expect commitment from all parties (researchers from different areas of data science, data users and other project partners) to engage with each other throughout the research programme. The end-use demonstrated in the proposal does not necessarily need to be within EPSRC's remit, however, the underlying science should be, and the results should be generalisable to some degree. Overall, the majority of the work should fall within EPSRC's remit.

In addition we expect proposals to demonstrate a commitment by the host institution(s) to support sustainable communities taking this approach, by catalysing long term culture change and building skills capacity.

As the UK's national centre for Data Science, the Alan Turing Institute is enthusiastic about working with successful projects resulting from this call. For example, the Alan Turing Institute could facilitate access to technical expertise, dissemination channels or networking opportunities. The nature of this interaction will depend on the details of each project and investigators are expected to contact the Alan Turing Institute to discuss this following the funding announcement being made. We do not expect a letter of support from the Alan Turing Institute as part of the proposal documentation.

For more information about EPSRC's portfolio and strategies, see our website: <https://www.epsrc.ac.uk/research/ourportfolio/>

Funding available

There is approximately £10M available for this call and we expect to fund 3-4 programmes of research.

Equipment

Equipment is not available through this call.

For more information on equipment funding, please see: <https://www.epsrc.ac.uk/research/facilities/equipment/>

For information on access to High Performance Computing capability, please see: <https://www.epsrc.ac.uk/research/facilities/hpc/>

Eligibility

Applicants should demonstrate a strong track record in data science in the outline proposal. Given substantial recent investment into data science in the UK, we expect applications to clarify how their programme builds on and/or complements current activities and why this new programme cannot be supported through any other means.

Any single investigator is only permitted to appear on one proposal, either as investigator or co-investigator.

There should be substantive institutional support demonstrating how the programme will catalyse long term culture change and build skills capacity. This

could include, for example, leveraged postgraduate training, provision of project support or special facilities. A Host Organisation Statement should be included with the outline application setting out how the host institution aims to support the applicants in creating and sustaining a culture of co-creation beyond the project end.

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide:

<https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/>

This call is a standard funding opportunity provided by EPSRC. A list of eligible organisations to apply to EPSRC is provided at:

<http://www.rcuk.ac.uk/funding/eligibilityforrcs/>

How to apply

Submitting an application

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (<https://je-s.rcuk.ac.uk/>).

When adding a new proposal, you should select:

- Council 'EPSRC'
- Document type 'Outline Proposal'
- Scheme 'Outline'
- On the Project Details page you should select the 'New approaches to Data Science' call.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. Please allow sufficient time for your organisation's submission process between submitting your proposal to them and the call closing date. EPSRC must receive your application by **16:00 on 24 January 2017**.

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (<https://www.epsrc.ac.uk/funding/howtoapply/>) which should be consulted when preparing all proposals.

Guidance on writing an application

At the Outline stage, applicants should submit:

- Outline application form
- Four-page outline Case for Support
- Host Organisation Statement

These are the only attachments allowed. Project partners should be identified within the outline Case for Support, but should not provide letters of support at this stage.

Applicants should address the assessment criteria below, giving an indication of the predicted costs. Proposals outside of EPSRC's remit or the remit of this call will be rejected.

Multi-institutional projects should be submitted as a single proposal submitted by the lead organisation on behalf of all partners. Multi-institutional projects submitted as multiple forms will not be accepted, and will be returned without being peer reviewed. If more than one institution is involved in the proposal and the partner institutions wish to submit institutional letters of support then these will be accepted, but are not mandatory.

Applicants should fully consider any ethical issues concerning the material they intend to use, the nature and choice, current public perceptions and attitudes towards the subject matter or research area. In particular, we would like to draw attention to the [EPSRC Framework for Responsible Innovation](#). EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. Further guidance on this will be provided at the full proposal stage.

Please note that on submission to EPSRC **all** non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc), the document is converted to PDF prior to attaching it to the proposal.

For advice on writing proposals see:
<https://www.epsrc.ac.uk/funding/howtoapply/preparing/>

Assessment

Assessment process

Outlines will be assessed against the call criteria by an expert panel, who will produce a rank ordered list. We will invite the highest ranked outlines to prepare and submit full proposals, which will undergo postal peer review. Proposals with sufficiently supportive reviews will be assessed by an interview panel.

Assessment criteria

- **Fit to call:**
 - New approach to data science challenges which is genuinely problem-driven
 - Collaborations involving researchers from different areas of data science working with each other and with users of data
 - Substantial institutional support for development of an activity that will catalyse long term culture change and build skills capacity
- **Quality of research, including:**

- Novelty and timeliness
- The ambition, adventure and transformative aspects identified
- Appropriateness of proposed methodology
- **National importance:**
 - Contribution of the proposal to other research areas, societal challenges, success of UK economy, emerging industry. For more information about EPSRC's portfolio and strategies, see our website: <https://www.epsrc.ac.uk/research/ourportfolio/>
 - New activity that complements recent investments in the area of data science in the UK (e.g. relevant current EPSRC grants, Alan Turing Institute, Farr Institute, etc.) and cannot be supported through any other means.
- **Pathways to impact:**
 - Relevance and appropriateness of any beneficiaries or collaborators, evidence that the proposal has been developed in partnership to deliver maximum impact.
 - Plans for dissemination and knowledge exchange.
- **Ability of applicant team to deliver the research, including:**
 - The leadership quality and experience of the Principal Investigator
 - Track record of the team in data science
 - Balance of skills of the project team and integration of different methodologies and approaches, and different parts of the data science landscape
 - Demonstration of a culture of co-creation, with commitment from all partners to engage with each other throughout the research programme

Full proposals will be additionally assessed against the following criterion:

- **Resources and management, including:**
 - Effectiveness of planning and resource management strategy
 - Appropriateness of resources requested

EPSRC reserve the right to apply additional selection criteria in the event of the call being so substantially oversubscribed as to be unmanageable as initially planned.

Feedback

Guidance and feedback may be given to successful outline bids in order to bring the most added value to the complex research landscape in this area. This may

include suggesting that applicants discuss the synergies between their proposals or work together.

Moving forward

Guidance on submitting full proposals will be sent to successful outline applicants.

Full proposals should not vary in total cost from the outline by more than 10%.

Outlines submitted to this call will not count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at:

<https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/>

Guidance

Guidance for reviewers

Information about the EPSRC peer review process and guidance for reviewers can be found at: <https://www.epsrc.ac.uk/funding/assessmentprocess/review/>

Guidance for host organisations

Any single investigator is only permitted to appear on one proposal, either as investigator or co-investigator

There should be substantive institutional support demonstrating how the programme will catalyse long term culture change and build skills capacity. This could include, for example, leveraged postgraduate training, provision of project support or special facilities. A Host Organisation Statement should be included with the outline application setting out how the host institution aims to support the applicants in creating and sustaining a culture of co-creation beyond the project end.

Additional grant conditions

In addition to the standard terms and conditions for grants, successful applicants will be required to appoint an independent steering committee to monitor and advise throughout the lifetime of the project.

Key dates

Activity	Date
Outline call opens	11 October 2016
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Your research administration should be able to offer advice about costing your proposal and the Je-S system. If there are any queries related to Je-S, please contact the Je-S helpdesk: JeSHelp@rcuk.ac.uk or 01793 444164. Please allow enough time before the closing date for your organisation's submission process.

Change log

Date	Version	Change
28/09/16	1	N/A

Appendices

Je-S attachments Check List

Case for Support	Four pages	Mandatory	
Host Organisation Statement	No page limit	Mandatory	

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over-length or unnecessary attachments may result in your proposal being rejected.