

Quick Reference

Please note that you must read the full Call document, including the appendices, for guidance before submitting your proposal

Tackling global development challenges through mathematical sciences research

Call type: Invitation for proposals

Closing dates:

Expression of Interest: 16.00 on 08 November 2018

Full proposal: 16.00 on 14 February 2019

Funding Available:

Up to £3 million is available from EPSRC for this call through the Global Challenges Research Fund. We aim to fund 5-10 research projects through this activity.

How to apply: Applicants must submit an Expression of Interest via the call page on the EPSRC website by 16:00 on 08 November 2018 to be considered through this call. Full proposals must be submitted by 16:00 on 14 February 2019.

Assessment Process: Expressions of Interest will be checked for Official Development Assistance funding compliance and fit to call scope, those meeting the requirements will be invited to submit a full proposal. Proposals will undergo postal peer review, followed by consideration at a prioritisation panel resulting in a rank ordered list.

Key Dates:

Activity	Date
Call for proposals issued	14 September 2018
Deadline for Expressions of Interest	08 November 2018
Invitations to full proposal	Early December 2018
Deadline for full proposals	14 February 2019
Panel meeting	June 2019
Funding decision	June 2019
Grant start date (fixed)	01 October 2019

Additional information:

- As the funding is provided through the Global Challenges Research Fund, the research activity proposed must be in line with Official Development Assistance (ODA) guidelines, and evidence of ODA compliance must be provided in the application. For further ODA guidance, please see <https://www.ukri.org/files/legacy/international/gcrfodaguidance-pdf/>.
- Proposals to this call must focus on mathematical sciences research to tackle development challenges.
- The research activity proposed must be primarily within EPSRC remit, although interdisciplinary and/or multidisciplinary proposals are encouraged to enable fit to the call scope.
- No capital equipment, i.e. single items of equipment over £10,000 in value, may be requested.
- Standard EPSRC eligibility requirements apply to this activity for UK Investigators and research organisations. **Please note that UK applicants may only be named as Investigator (either Principal or Co-Investigator) on one proposal to this call.**
- Appropriate collaborators in one or more lower middle income, low income or least developed countries on the Development Assistance Committee (DAC) list of the Organisation for Economic Cooperation and Development (OECD) (http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC_List_ODA_Recipients2018to2020_flows_En.pdf) are a mandatory requirement for proposals submitted through this call. These collaborators may be academic researchers and/or research users.
- Overseas Co-Investigators from **research organisations** in lower middle income, low income or least developed countries on the DAC list of the OECD may be included on proposals but are not mandatory. We will also support costs associated with research conducted in lower middle income, low income or least developed countries, e.g. consumables, field work.
- The lead institution and Principal Investigator must be based in the UK. Although proposals may be multi-institutional, only one application form should be submitted for each bid. Joint proposals on separate Je-S forms will not be accepted.
- The projects may be up to 24 months in duration.
- This call is related to the "Building capacity to tackle global development challenges through mathematical sciences research" call. Proposals submitted to both calls will be considered at the same prioritisation panel on separate lists. Applicants may submit a proposal to both calls.

Contacts:

- Dr Matthew Lodge, Senior Portfolio Manager, Mathematical Sciences, EPSRC (Tel: 01793 444 356 - Email: matthew.lodge@epsrc.ukri.org)

Tackling global development challenges through mathematical sciences research

Call type: Invitation for proposals

Closing dates:

Expression of Interest: 16.00 on 08 November 2018

Full proposal: 16.00 on 14 February 2019

Related themes: Mathematical sciences

Contents of this call document

- Summary
- Background
- Call Scope
- Funding Available
- Equality, Diversity and Inclusion
- Equipment
- Eligibility
- How to apply
- Submitting an application
- Guidance on 'Writing an Application'
- User Engagement Strategy
- Assessment
- Guidance for Reviewers
- Collaboration agreements
- Key Dates
- Contacts
- Change Log
- Appendices
- Attachment Checklist

Summary

This call is supported through EPSRC's Global Challenges Research Fund (GCRF) allocation. The aim of this activity is to support an internationally leading programme of mathematical sciences research to tackle the challenges faced by developing countries focussed on empowering inclusion and modelling society.

Appropriate collaborators in one or more lower middle income, low income or least developed countries on the Development Assistance Committee (DAC) list of the Organisation for Economic Cooperation and Development (OECD) (http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC_List_ODA_Recipients2018to2020_flows_En.pdf) are a mandatory requirement for proposals submitted through this call. These collaborators may be academic researchers and/or research users.

Overseas Co-Investigators must be researchers based in research organisations in lower middle income, low income or least developed countries on the DAC list of the OECD, excluding upper-middle income countries. We will also support costs associated with research conducted in these countries, for example consumables and field work.

Collaborators from upper-middle income countries on the DAC list of the OECD may be included on the proposal as Project Partners but EPSRC will not contribute to their associated costs.

Applicants should note that all Co-Investigators will need to have a Je-S account before they can be added to the Je-S proposal form; the individual Co-Investigators will also need to activate their account. Please also be aware that if the Co-Investigator's institution is not listed in our grants database a request will need to be submitted for that institution to be added before a Je-S account can be created. Please allow plenty of time to complete the necessary steps before the closing date of the call.

Applicants must submit an Expression of Interest (EoI) via the call page on the EPSRC website by **16:00 on 08 November 2018** to be considered through this call. Full proposals from applicants who have not previously submitted an Expression of Interest will not be considered. Please note that UK applicants may only be named as Investigator (either Principal or Co-Investigator) on one proposal to this call.

The EoI form includes the following required fields:

- Principal Investigator (PI) name
- Lead UK Research Organisation (RO)
- Names of any other partner UK ROs
- Partner lower middle income, low income or least developed country(ies)
- PI contact email address
- Research office email address
- Summary of research project (up to 300 words)
- ODA statement (see guidance below; up to 300 words)
- Approximate funding to be requested from EPSRC

The call for full proposals closes at **16:00 on Thursday 14 February 2019**. Up to **£3 million** is available from EPSRC for this call. We aim to support 5-10 research projects through this activity.

Background

The Global Challenges Research Fund (GCRF) is a £1.5 billion UK Government fund, administered by the Department of Business, Energy and Industrial Strategy (BEIS), to support cutting-edge research that addresses the challenges faced by developing countries through:

- Challenge-led disciplinary and interdisciplinary research;
- Strengthening capacity for research and innovation within both the UK and developing countries;
- Providing an agile response to emergencies where there is an urgent research need.

GCRF is administered through delivery partners, including UK Research and Innovation (UKRI) and national academies, and forms part of the UK's Official Development Assistance (ODA) commitment, which is monitored by the Organisation for Economic Cooperation and Development (OECD; <http://www.oecd.org/>). ODA-funded activity focuses on outcomes that promote the long-term sustainable growth of countries on the OECD Development Assistance Committee (DAC) list, which may be found at: <http://www.oecd.org/dac/stats/daclist.htm>

This call is supported through EPSRC's GCRF allocation. The aim of this activity is to support an internationally leading programme of mathematical sciences research, centred on empowering inclusion and modelling society. Proposals must address the priority areas described below to be considered through this call.

Appropriate collaborators in one or more lower middle income, low income or least developed countries are a mandatory requirement for proposals submitted through this call. However, overseas Co-Investigators are optional.

For further advice and guidance on preparing GCRF research proposals please see the links given in the **Guidance on writing an application** section.

This call is related to the "Building capacity to tackle global development challenges through mathematical sciences research" call. Proposals submitted to both calls will be considered at the same prioritisation panel on separate lists. Applicants may submit a proposal to both calls.

Call scope

Proposals to this call must focus on novel mathematical sciences research to tackle development challenges in empowering inclusion and modelling society. Examples of possible research challenges are given below. They are not exhaustive and applicants are encouraged to engage with EPSRC to discuss their proposal prior to submitting their Expression of Interest if they have concerns about fit to scope of call. Proposals may also span both headings.

Empowering inclusion

- Understanding causes and resolutions to extreme child poverty
- Inclusive and quality education for all
- Improving access to clean water and sanitation
- Disability and inclusion (across the lifecourse - education, jobs, mobility, accessibility)

Modelling society

- Rights of girls and women
- Improving nutrition
- Uptake of technological innovations e.g. in infrastructure, jobs, health
- Opportunities for economic development
- Opportunities for decent work
- Sustainable living

Applicants should ensure that their proposal focusses on the challenges specific to the partner country(ies) and not broader global issues.

The research activity proposed must be primarily within EPSRC remit, although interdisciplinary and/or multidisciplinary proposals are encouraged to enable fit to the call scope.

Proposals could make use of official statistics and other data to identify 'at risk' groups, working with the partner country(ies) to create new approaches to dealing with sometimes fragmented data. They could also involve modelling and analysis of 'wicked' developmental problems or other modelling challenges, which could sustainably enhance the country's ability to respond to disaster or identify at risk groups, for example.

Applicants should consider the varying computing and communications infrastructure in partner countries when planning their research project, for example access to high powered computing infrastructure.

The UK Strategy for the Global Challenges Research Fund (<https://www.ukri.org/files/legacy/research/gcrf-strategy-june-2017/>) identifies three areas for research to enable change: Equitable access to sustainable development; Sustainable economies and societies; and Human rights, good governance and social justice. It is anticipated that the breadth of proposals submitted to this call will contribute to all three of these areas.

The following documents may be of interest to applicants:

- The report of the EPSRC ICMS-INI workshop on Mathematical Sciences for Development (<http://www.icms.org.uk/gcrf.php>)
- The Department for International Development Data Disaggregation Action Plan (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/582315/Data-disaggregation-action-plan-Jan-2017.pdf)

When preparing their proposal factors that applicants should consider include:

- The unmet need identified by partners in the lower middle income, low income or least developed country(ies);
- End-user participation in research, design, achieving acceptance and adoption;

- Ethics and responsible innovation (see link under **Guidance on writing an application** section below);
- Research capacity building in the partner country(ies) and the UK.
- Equitable partnership

Research should be undertaken with the partner country(ies) identified to ensure that it benefits the most vulnerable people in those countries and that the outcome is sustainable; the benefit does not end with the conclusion of the proposed research.

It is vital that applicants consider the international development context of their proposed research, including socio-economic and environmental factors, as appropriate. Industrial collaborators and other research users can also be included as project partners, subject to EPSRC standard funding rules. Appropriate collaborators in one or more lower middle income, low income or least developed countries are a mandatory requirement in this activity, but overseas Co-Investigators are optional.

The majority of the proposed research must be in EPSRC remit. If you have any doubts on this point please contact EPSRC before applying. Proposals must also be compliant with ODA guidelines; evidence of ODA compliance is required as part of your application (see **Guidance on writing an application**).

Proposals not meeting either of these requirements in the judgement of EPSRC staff will be rejected without recourse to peer review.

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

Funding available

Up to £3 million is available from EPSRC for this call, supported through the Global Challenges Research Fund. We aim to support 5-10 research projects through this activity. Projects may be up to 24 months in duration.

Through this activity we will support costs associated with research conducted in lower middle income, low income or least developed countries e.g. consumables, field work. The proportion of funds directed overseas is at the discretion of the applicants and should be based on the best balance to achieve the project's objectives. For full details of what is permissible please see the Appendices to this call document.

Collaborators from upper middle income countries on the DAC list of the OECD may be included on the proposal as Project Partners but EPSRC will not contribute to their associated costs.

Guidance on the types of support that may be sought from EPSRC is given on the EPSRC website (<https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>) which should be consulted when preparing all proposals.

Due to requirements of the GCRF, grants awarded through this call will have a non-standard funding profile.

Equality, Diversity and Inclusion

The long term strength of the UK research base depends on harnessing all the available talent and the Research Councils have together developed the ambitious RCUK Equality, Diversity and Inclusion Action Plan <https://www.ukri.org/files/legacy/documents/actionplan2016-pdf/>.

In line with the UK Research and Innovation Diversity Principles, EPSRC expects that equality and diversity is embedded at all levels and in all aspects of research practice. We are committed to supporting the research community in the diverse ways a research career can be built with our investments. This includes career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications from academics who job share, have a part-time contract, need flexible working arrangements or those currently committed to other longer, large existing grants. Please see our Equality and Diversity webpages <https://epsrc.ukri.org/funding/equalitydiversity/> for further information.

Overseas Development Assistance funds provided by UKRI must comply with the gender equality and other requirements of the International Development Act. Under the International Development (Gender Equality) Act 2014, development assistance should be provided in a way which is likely to contribute to reducing inequality between persons of different gender. Applicants should consider the potential for positive impacts in gender equality in the DAC list countries involved. Any possible negative impacts of the proposed project on inequalities of different genders, and how the project proposes to remove these should also be considered.

Equipment

Capital equipment, i.e. any single item of equipment over £10,000 in value (including VAT), is not available through this call. Consumable costs and small items of equipment are permitted according to EPSRC standard funding rules and should be listed in the Directly Incurred - Other Costs heading.

For more information on equipment funding, please see: <https://epsrc.ukri.org/research/facilities/equipment/>.

Eligibility

Standard EPSRC eligibility requirements apply for the UK team in this activity. For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide: <https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>.

Please note that UK applicants may only be named as Investigator (either Principal or Co-Investigator) on one proposal to this call.

As this call is a targeted funding opportunity provided by EPSRC, UK higher education institutions, research council institutes and some independent research organisations are eligible to apply. A list of eligible organisations to apply to EPSRC is provided at: <https://www.ukri.org/files/legacy/documents/eligible-independent-research-organisations-pdf/>.

The lead institution and Principal Investigator must be based in the UK. Overseas Co-Investigators from research organisations in lower middle income, low income

or least developed countries on the DAC list of the OECD may be included on proposals through this call, excluding upper middle income countries.

Applicants should note that all Co-Investigators will need to have a Je-S account before they can be added to the Je-S proposal form; the individual Co-Investigators will also need to activate their account. Please also be aware that if the Co-Investigator's institution is not listed in our grants database a request will need to be submitted for that institution to be added before a Je-S account can be created. Please allow plenty of time to complete the necessary steps before the closing date of the call. We will not reopen the call for applicants who do not complete this step in time.

The process for creating a Je-S account can be found at: <https://je-s.rcuk.ac.uk/Handbook/pages/SettingupaJeSaccount/SettingupaJeSaccount.htm>

How to apply

An Expression of Interest must be submitted via the call page on the EPSRC website by **16:00 on 08 November 2018**. Full proposals submitted without a corresponding Expression of Interest (EoI) will not be considered. The EoI stage is to check ODA compliance, fit to call scope, and allow early consideration of potential reviewers and panel members. EPSRC will only provide feedback to those applicants where the EoI appears not to be in the scope of the call. The EoI form includes the following required fields:

- Principal Investigator (PI) name
- Lead UK Research Organisation (RO)
- Names of any other partner UK ROs
- Partner countries
- PI contact email address
- Research office email address
- Summary of research project (up to 300 words)
- ODA statement (see guidance below; up to 300 words)
- Approximate funding to be requested from EPSRC

Submitting an application

If invited to submit a full proposal 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 'Standard Proposal'
- Scheme 'Global Challenges Research Fund'

- On the Project Details page you should select the 'Tackling global development challenges through mathematical sciences research' 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 14 February 2019**.

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://epsrc.ukri.org/funding/applicationprocess/>) which should be consulted when preparing all proposals.

Submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: <https://epsrc.ukri.org/funding/applicationprocess/basics/resubpol/rua/>.

Guidance on writing an application

UKRI will shortly start to publish data on GCRF, Newton Fund and other ODA awards via the IATI registry as part of the UK Government commitment to ODA transparency. The purpose of publishing information via the IATI registry is to make information about ODA easily accessible to governments, stakeholders and other relevant groups in the beneficiary countries. Project titles and summaries will be published, therefore in order for the information to be useful and accessible to non-specialist audiences the title and project summary should be written with disclosure in mind and provide a clear description of the project written in plain English, avoiding jargon and acronyms. The project title should make clear how the project complies with ODA requirements, for example it should identify the beneficiary country(ies) and development challenge being addressed.

Applications must include the following components:

- **Case for Support** (up to ten sides of A4 in total), including:
 - track record of applicants (up to two sides of A4)
 - description of proposed research (up to six sides of A4)
 - management plan (up to two sides of A4)

Applicants should demonstrate in the Case for Support how a consideration of maximising potential impact in the partner country(ies) is embedded in their proposed programme of work. Secondary benefits to the UK of this research should also be described, i.e. UK national importance. See also the UKRI GCRF ODA guidance at: <https://www.ukri.org/files/legacy/international/gcrfodaguidance-pdf/>

Beyond this, the case for support should focus principally on the scientific work to be undertaken. Applicants should describe how impact activities, such as user engagement, will be integrated into the project's programme and methodology. In this document applicants should particularly focus on when and how impact activities and communication channels will intersect with the research and how they will shape the development of the research programme. Where impact activities (for example, understanding partner country's(ies') needs) form a substantive part of the work programme, such as a specific work package or task, this should be noted

in this section. However, a full description of activities and methodologies might be most appropriately detailed in the Pathways to Impact document.

The management plan should clearly articulate the proposed governance framework of the research partnership. How will the governance framework ensure that the partnership is equitable, transparent and of mutual benefit to all parties? Areas to consider include the processes that the partnership will use to:

- Develop and agree research questions, research approaches and research methods
- Identify roles and responsibilities of partners
- Ensure transparency of budgets
- Ensure transparency of decision making processes.
- Share information including data and research outputs
- Determine how and when results and outputs are disseminated
- Determine authorship, conference attendance and interaction with stakeholders
- Manage ownership and control of products and specimens including data, results and intellectual property
- Manage and resolve conflict within the partnership
- Evaluate and monitor the health of the partnership

The management plan should also consider the risks around safeguarding. Should the proposal be successful applicants will be required to provide up to 1 page of A4 on the management and reporting of safeguarding for the project prior to the grant being awarded. Applicants may find it helpful to look at <https://www.bond.org.uk/ngo-support/safeguarding-guidance-and-resources>.

- **Official Development Assistance (ODA) statement:** (up to one side of A4, attachment type 'Non-UK components') in which you should consider the following questions:
 - Which country/ countries on the DAC list will directly benefit from this proposal?
 - How is your proposal directly and primarily relevant to the development challenges of this country / these countries?
 - How do you expect that the outcome of your proposed activities will promote the economic development and welfare of this country / these countries?
- **Pathways to impact statement** (up to two sides of A4)
In this document applicants should present a coherent strategy for accelerating and maximising the impact of the proposed research in the partner country(ies), with a particular focus on the activities that will be undertaken to address barriers that might prevent impact from arising. In contrast to the Case for Support this document should focus on the specific methodologies and strategies that will be employed to enhance the impact of the proposal and to outline the resources that will be requested (or otherwise acquired) in order to achieve this. Applicants should demonstrate an understanding of the future development pathway for their proposed research and show that they have considered the likely

next steps for the outcomes of their research. They should consider how they will obtain any data or evidence they will need, or other appropriate measures they will take, to sufficiently de-risk the technology to the point that it will be a suitable prospect for support from translational funding entities. Public engagement activities may also be an appropriate mechanism for engagement in the partner country(ies) to advance acceptance and adoption of the novel technology.

There is no expectation that all impact activities must be undertaken by the researcher team, but it is expected that appropriate activities are identified to ensure that research outputs can and will be implemented in a the DAC-list country context. See also the section on **User engagement strategy**.

- **Diagrammatic work plan** (one side of A4)
- **Justification of resources** (up to two sides of A4)
- **CVs** (up to two sides of A4; only for each named researcher, visiting researcher and Researcher Co-Investigator, as applicable)
- **Statements of support from project partners**, where applicable (no page limit) – attachment type 'Project partner letters of support'. For organisations offering their own resources (either cash or in-kind) to the project **only**.

Applicants should use the Ethical Information section on the Je-S form to demonstrate to peer reviewers that they have fully considered 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. EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. All relevant parts of the Ethical Information section must be completed. If the research will involve human participation or the use of animals covered by the Animals (Scientific Procedures) Act 1986 it is recommended that applicants pay particular attention to the guidance highlighted below. EPSRC reserves the right to reject applications prior to peer review if the Ethical Information sections are not completed correctly.

Further guidance on completing the Je-S form can be found at <https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm>. Other relevant guidance includes the Responsible Innovation Framework (<https://epsrc.ukri.org/research/framework/>).

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://epsrc.ukri.org/funding/applicationprocess/preparing/>

Further guidance and advice on preparing proposals for GCRF initiatives may be found at:

<https://bbsrc.ukri.org/documents/gcrf-agriculture-food-systems-generic-observations-pdf/>

<https://www.fasttrackimpact.com/single-post/2017/02/02/How-to-write-a-fundable-proposal-for-the-Global-Challenges-Research-Fund>

User Engagement Strategy

Successful applicants will be required to develop and execute a strategy for engaging with potential users of the research funded in the project; resources for this activity can be requested as part of the Pathways to Impact and must be justified in the application. Applicants should outline their User Engagement Strategy in the Pathways to Impact document. Should the grant be awarded the strategy should be reviewed and updated regularly as part of the formal management of the grant. As noted above, in this activity it is vital that applicants consider the international development context and potential users of their proposed research in DAC-list countries, giving appropriate consideration to socio-economic and environmental factors.

The strategy should cover:

- how and when potential users have been / will be identified;
- what form the engagement will take;
- what steps will be taken to ensure that outputs of the research are made available to potential users;
- suitable metrics for determining the success of the strategy in delivering value to users.

Assessment

Assessment process

In the event of this call being substantially oversubscribed as to be unmanageable, EPSRC reserve the right to modify the assessment process.

This call will have an Expression of Interest (EoI) stage. The information collected at this stage will be used to confirm eligibility for call; ODA compliance of proposed research, fit to call scope, and that the proposed research is primarily within EPSRC's remit. The decision to invite proposals to submit a full proposal will be based on these criteria only.

Proposals will undergo postal peer review via Je-S. Applicants whose proposals receive sufficiently supportive reviews will have the opportunity to respond to the anonymous peer reviewers' comments prior to consideration by a prioritisation panel in June 2019. Proposals with insufficiently supportive reviewers' comments will be rejected without consideration by the panel and with no opportunity to respond to reviewers' comments.

The prioritisation panel will assess the proposals against the assessment criteria described below.

Applicants will be informed of the outcome as soon as possible after the panel meeting to enable the awards to start on 01 October 2019. Specific feedback will not be provided following the panel.

Please note that if demand is high EPSRC reserves the right to convene an expert panel to sift uncompetitive full proposals prior to postal peer review. Applicants whose proposals are rejected at this stage, should it prove necessary, will receive feedback in the form of a brief summary of the expert panel's views.

Assessment criteria

Quality (Primary)

- Evidence of the quality, novelty and timeliness of the proposal in terms of the scientific research proposed and its relationship to the research context.
- Evidence that the proposal will deliver a high quality scientific output, or lead to results that will ultimately enable high quality scientific research.
- Evidence that the proposed work is ambitious, adventurous and potentially transformative; it will explore novel and new ideas that may have a high risk, high reward element.
- Appropriateness of the proposed methodology

Importance (Major secondary)

- International development importance of this research, in particular the needs in the partner lower middle income, low income or least developed country(ies)
- Contribution to other research areas, societal challenges, and/or emerging industries
- Secondary benefits to the UK of this research – UK national importance; contribution to the EPSRC's Delivery Plan Outcomes

Impact (Secondary)

- Relevance and appropriateness of beneficiaries identified and collaborators proposed, including businesses and charities where appropriate
- Quality of the impact pathways described to facilitate/accelerate impacts of the research in one or more lower middle income, low income or least developed country(ies)
- Understanding of and plans for how to measure the potential impact of the research proposed in the lower middle income, low income or least developed country context

Applicants' ability to deliver the proposed research (Secondary)

- Balance of skills of the proposed project team, including multidisciplinary innovation and entrepreneurship where appropriate

- Appropriateness of international partnerships

Resources and management (Secondary)

- Effectiveness of the proposed planning and management, including risk management strategy
- Appropriateness of the resources requested

Fit to the call (Primary)

- Proposals should clearly address one or more of the priority areas described under **Call scope** above.

No prioritisation panel feedback will be provided, although the panel outcomes will be published after the meeting on EPSRC Grants on the Web.

Submissions to this call will count towards the Repeatedly Unsuccessful Applicants Policy. Further information about the policy can be found at: <https://epsrc.ukri.org/funding/applicationprocess/basics/resubpol/rua/>

Guidance for reviewers

Reviewers are requested to consider the assessment criteria listed above when considering the strengths and weaknesses of proposals submitted through this call. Please note that the detailed assessment criteria under the main headings differ from typical EPSRC calls – see above for details. Specific attention should be paid to the international development context of the proposed research.

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

Collaboration agreements

Applicants are not required to have collaboration agreements in place at the point of submission. Collaborations agreements must however be in place for all partners within six months of the start date, and prior to any cash-flow to the partner in accordance with GAC GCRF 9.

Collaboration agreements should include details on:

- Transparent budgets and payment schedules to each partner
- Roles and responsibilities of each partner, communication and leadership structure
- Description of the contribution of each partner to the project
- Authorship and use of findings including intellectual property
- Data management plan for accessing and sharing data by partners
- How the project will resolve any problems
- Adherence to the grant Terms and Conditions

Additional grant conditions

Grants will be subject to the standard UKRI grant conditions (<https://www.ukri.org/files/legacy/news/grant-fec-tcs-january-2018-v1-pdf/>) however the following additional grant conditions will be added to this call. If awarded EPSRC reserves the right to add further grant-specific conditions before commencement of the grant.

GAC GCRF 1: ODA Compliance

The GCRF is part of the UK's Official Development Assistance (ODA). Its aim is to support cutting-edge research that addresses challenges faced by developing countries. The investigators must ensure the research that is undertaken as part of this grant is compliant with ODA rules and regulations as set out by the OECD. In the event that the research is deemed to no longer comply with ODA rules and regulations the Research Councils reserve the right to terminate the grant.

Further information on ODA guidance can be found at:
<https://www.ukri.org/files/legacy/international/gcrfodaguidance-pdf/>

GAC GCRF 2: Government support

This award is dependent on continuing Government commitment for the Global Challenges Research Fund initiative. In the event that this support is withdrawn, EPSRC reserves the right to terminate the award.

GAC GCRF 3: Reporting

Investigators must assist with any additional reporting requirements throughout the whole life time of the grant (during the grant and on completion).

In addition to the reporting and disclosure requirements set out in RGC15 and RGC16, the Research Organisation is required to submit an interim financial statement no later than 31st January 2021 clearly showing expenditure to 31st December 2020 and forecast expenditure to grant end date.

GCC GCRF 4: Acknowledgement of support

In addition to the provisions in RGC22, the investigators must acknowledge the Global Challenges Research Fund and EPSRC in any publications, webpages or events associated with this grant in accordance with communications guidance received.

GAC GCRF 5: Starting Procedures

Standard grant Terms and Conditions RGC4 do not apply to this project. This grant has a **fixed** start date of 01 October 2019. The start of the grant may NOT be delayed beyond or precede this date.

GAC GCRF 6: Grant extensions

Notwithstanding grant condition RGC 7, due to GCRF financial constraints, grant extensions will only be considered under exceptional circumstances (in line with the Equality Act 2010) and will require Research Council agreement on a case-by-case basis. The Research Organisation remains responsible for compliance with the terms of the Equality Act 2010 including any subsequent amendments

introduced while work is in progress; and for ensuring that the expectations set out in the UKRI statement of expectations for equality and diversity are met.

GAC GCRF 7: Transfer of funds to UK and overseas organisations

As stated in standard grant Terms and Conditions RGC1, the Research Organisation is accountable for the conduct of the research, the use of public funds and for ensuring the proper financial management of grants use of public funds. These obligations apply whether the research activities are carried out within the host institution or at a second centre e.g. by a collaborator, subcontractor or other third party.

The Research Organisation must ensure that funds are spent in a way that is consistent with the purpose and conditions of the award.

The Research Organisation is responsible for the timely and accurate submission of all expenditure statements and reports required by the award.

The Research Organisation is responsible for exercising 'due diligence' where it relies on third parties to deliver any part of the work funded by the grant. To this effect the accountability of the Research Organisation extends to cover any funds that it passes on to any third party and it is the responsibility of the Research Organisation to ensure compliance against these Terms and Conditions for any third party involved. The Research Organisation must be able to provide the Research Council with details of expenditure by any third party to the Grant.

GAC GCRF 8: Ethical requirements for research being undertaken overseas

Any research undertaken outside the UK must have both UK and respective country ethical approvals. For clinical studies involving human participants and/or patients, appropriate consent must be obtained. When collaborating with other laboratories, or where animal facilities are provided by third parties, researchers and the local ethics committee in the UK should satisfy themselves that welfare standards consistent with the principles of UK legislation (e.g. the Animals (Scientific Procedures) Act 1986) and set out in the guidance document 'Responsibility in the use of animals in bioscience research' (available at www.nc3rs.org.uk/responsibility-use-animals-bioscience-research) are applied and maintained.

GAC GCRF 9: Collaboration Agreements

As outlined in RGC 20 where the grant is associated with more than one research organisation and/or other project partners, the basis of collaboration between the organisations, including the allocation of resources throughout the project and ownership of intellectual property and rights to exploitation, is expected to be set out in a formal collaboration agreement.

Collaboration agreements with all identified partners must be in place within the first six months of the grant start date. The terms of collaboration agreements must not conflict with the standard grant Terms and Conditions.

Key dates

Activity*	Date
Call for proposals issued	14 September 2018
Deadline for Expressions of Interest	08 November 2018
Invitations to full proposal	Early December 2018
Deadline for full proposals	14 February 2019
Panel meeting	June 2019
Funding decision	June 2019
Grant start date (fixed)	01 October 2019

*EPSRC aims to adhere to the key dates as published, however there may be exceptions where the Expression of Interest or prioritisation panel meeting may have to change due to panel member availability which may result in delayed decisions.

Contacts

- Dr Matthew Lodge, Senior Portfolio Manager, Mathematical Sciences, EPSRC (Tel: 01793 444356 - Email: matthew.lodge@epsrc.ukri.org)

For questions and advice regarding the submission of your proposal via The Joint Electronic Submissions (Je-S) system, the Helpdesk is the first point of contact. Email: JeSHelp@rcuk.ac.uk, Phone: +44 (0) 1793 44 4164 (Staffed Monday to Thursday 8.30am to 5pm and Fridays 8.30am to 4.30pm, excluding bank holidays and other holidays).

Change log

Name	Date	Version	Change
Vivienne Blackstone / Matthew Lodge	06 September 2018	1.0	N/A

Appendices

Overseas costs

One or more overseas partner organisations based in lower middle income, low income or least developed country(ies) on the OECD DAC list of ODA recipients, including universities, research institutes, non-governmental organisations, charities and industry collaborators, are a requirement for proposals to this call. Subcontracting costs may be requested for these partners where necessary for the project and suitably justified in the application. However, Co-Investigators

may only be named from **research organisations** based in partner lower middle income, low income or least developed country(ies). These partner organisations will receive funding through the UK lead research organisation; they cannot act as the lead organisation. Non-UK Co-Investigators based in countries other than lower middle income, low income or least developed countries of the OECD DAC list are not permitted. If you have any queries in this regard please contact us before applying.

It may be appropriate for some lower middle income, low income or least developed country organisations to be project partners in the usual EPSRC sense, in that they are offering their own resources to the project, either cash and/or in-kind, rather than requesting funding from EPSRC via the UK lead university. Project partners in this sense **do satisfy** the call requirement for lower middle income, low income or least developed country partner organisations.

Collaborators from upper middle income countries on the DAC list of the OECD may be included on the proposal as Project Partners but EPSRC will not contribute to their associated costs.

Please note that overseas costs should only be applied for where they cannot reasonably be covered by existing funding. For example, an overseas Co-Investigator’s salary may be fully covered and no UK contribution is required to recompense their time in carrying out the project. In such a case the total number of hours to be charged to the grant over its duration should be shown as zero on the Je-S form, although the hours per week they undertake to contribute to the project should be entered on the form as normal.

The UK research organisation awarded the grant is responsible for the conduct and administration of the grant. It is accountable for the effective use of public funds, and must therefore ensure that all grant monies are subject to proper financial management processes. It is the research organisation’s responsibility to ensure that expenditure on collaborations in the UK and abroad is subject to robust controls to ensure value for money and propriety; all costs should be fully vouched and maintained for possible inspection and checks by, or on behalf of, EPSRC.

If research resources are subcontracted to a partner organisation the UK lead research organisation must undertake due diligence checks to ensure that the funding will be appropriately used. The lead UK research organisation must confirm to EPSRC that it has undertaken suitable due diligence checks within three months of the start of the grant.

Permissible overseas costs are described in the following table. This table applies only to costs associated with collaborators from research organisations in lower middle income, low income or least developed countries. Collaborations with other countries are permitted, but are subject to standard EPSRC funding rules.

Description	EPSRC FEC contribution
Salary costs for overseas Co-Investigators and any locally employed Researchers or Technicians, i.e., percentage contribution of actual salary, should be entered under the appropriate	100%

Investigator or Staff section of the Je-S form. In each case these costs must be marked as an Exception.	
Travel and subsistence for overseas Co-Investigators and/or Researchers. These costs should be entered under Directly Incurred costs as usual but marked as an Exception.	100%
Other Directly Incurred costs charged by the overseas organisation and associated with the research, for example consumables, field work, etc. These costs should be entered as usual but marked as an Exception.	100%
Other Directly Incurred - Indirect and Estates costs at the overseas organisation: we will pay a contribution to these costs, which should be calculated as 20 per cent of the overseas research organisation's staff costs only , including Investigators, Researchers and Technicians. This total should be entered as a separate item under Other DI costs and marked as an Exception.	100%
Travel and subsistence (including bench fees) for UK-based researchers going abroad to undertake work. This does not include costs incurred directly by the overseas organisation when the UK researcher is active in that country.	80%

Je-S attachments Check List

Attachment Type	Maximum Page length	Mandatory/Optional	Extra Guidance
Case for Support	10 pages	M	Comprising up to two A4 sides for a track record, six A4 sides describing the proposed research and its context, and up to two sides of A4 describing the management plan.
ODA statement - 'Non-UK components' attachment type	1 page	M	Explanation of how the proposed research meets ODA guidelines. See main text for questions to consider.
Pathways to Impact	2 pages	M	
Workplan	1 page	M	
Justification for Resources	2 pages	M	
CVs	2 pages each	As required by EPSRC	For named and visiting researchers, and researcher co-investigators only . CVs for the Principal Investigator and other Co-Investigators are not required and will not be accepted.
Project Partner Letters of Support	No page limits	As required by EPSRC	Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date.
Letters of Support	No page limits	As required by EPSRC	Letters from partner

			organisations in DAC-list countries are permitted, but not from any other organisation.
Proposal Cover Letter	No page limit	Optional	The cover letter can be used to highlight any important information to EPSRC. This attachment type is not seen by reviewers or panel members.
Other attachment	No page limit	As required, at EPSRC request only	This can be used for a document that does not fit under any of the headings above. This attachment type is not seen by reviewers or panel members.

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.