



**Biotechnology and
Biological Sciences
Research Council**

Title

India-UK partnership to address farmed animal diseases and health

Funders involved

Biotechnology and Biological Sciences Research Council (BBSRC), UK Research and Innovation Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India

Funding available

£5 million from BBSRC for the UK applicants with matched equivalent resources from DBT for successful Indian applicants

Total funding available (indicative) £10 million.

Apply for funding to advance the mechanistic understanding of host-pathogen interactions in farmed animals and/or to tackle Veterinary Antimicrobial Resistance (Vet-AMR)

Key dates / timeline

| Activity | Timing |
|---|-------------------------------------|
| Scoping phase between UKRI (BBSRC and UKRI India) and DBT | Current |
| Deadline for DBT-BBSRC to agree call text | 14 April 2023 |
| Joint call opens | 2 May 2023 |
| Community webinar | Wb 22 May 2023 |
| Proposal submission deadline | 11 July 2023 4pm BST 12pm IST |
| Eligibility and scope checks (UK and India) | 15 – 25 July 2023 |

| | |
|--------------------------|-------------------------|
| Expert peer review stage | 19 July-November 2023 |
| Joint UK-India panel | 22 November 2023 |
| Decisions made | ~ December 2023 |
| Projects start | February – 1 April 2024 |

Who can apply?

Each project must list one principal investigator in the UK and one principal investigator in India along with one Co-Principal Investigator in India. There is no limit to the number of participants listed as collaborators or co-investigators. Industry will not be funded under this call.

UK participants

This funding opportunity invites applicants from UK-based organisations that meet BBSRC's standard eligibility conditions, including:

- higher education institutions
- eligible independent research organisations
- approved public sector research establishments
- UK Research and Innovation (UKRI)-funded labs and facilities.

All UK principal investigators and co-investigator must meet the standard BBSRC eligibility criteria, as per [BBSRC research grants guide](#).

India participants

All Indian faculty (from public/private universities/institution/NGOs/VO(s) Trust(s)/Research foundations) are normally eligible to apply for DBT funding opportunities as Principal Investigators with at least one eligible faculty from UK listed as co-Principal Investigator. Please check eligibility criteria for Indian funding. Please follow DBT guidelines (**Annexure I**) for submitting the proposals under this Joint Call.

Applications involving ineligible applicants, from either India or the UK, will result in the whole application being withdrawn.

What we're looking for

BBSRC and DBT seek to bring research and innovation groups in the UK and India together to build on their combined strengths and work on projects, engaging with users, in particular farmers, with the aim of improving farmed animal health and welfare. Projects should build new links or strengthen existing links between India and the UK, and demonstrate how research and innovation in the two countries would be integrated.

Programme Aim

The aim of this programme is to advance the mechanistic understanding of:

- susceptibility of farmed animals to infectious diseases
- resistance to disease treatment

with a focus on understanding host factors and farming practices that promote and prevent these.

Programme Scope

Research area 1: Enhancing mechanistic understanding of host-pathogen interactions

Host-pathogen interaction is a dynamic process between diverse pathogens and host in all stages of pathogenic infection. It is vital to develop deeper understanding of such interactions not only to understand infectious disease, but also to develop effective detection and intervention strategies.

The aim is to use traditional and high throughput approaches to understand host-pathogen interactions from the basic molecular and cellular levels, all the way through to epidemiological use of big data sets and understanding the social drivers behind behavioural change around farming of animals.

Host-pathogen research areas can include, for example:

- develop tractable systems, such as models, cell lines and organoids to further research
- focus on pathogen and vector biology including pathogen ecology, evolution, transmission, and epidemiology
- elucidate host factors/mechanisms including genetic, adaptation, immune evasion, and disease persistence, impact of different production systems and direct or indirect interactions between pathogens, including co-infections
- the mechanisms that underpin susceptibility including spill over events, for instance zoonoses, reverse zoonoses and epizootics.

Research area 2: Tackling Veterinary Antimicrobial Resistance (Vet-AMR) (includes bacterial, parasitic and viral pathogens) for the purpose of improving animal health

The emergence of Vet-AMR is causing devastating impacts on animal health by hampering the effectiveness of treatments. The focus is to develop mechanistic understanding of how resistance develops and use that information to develop intervention strategies to reduce reliance on antimicrobials and develop the next generation of alternatives to antimicrobials.

The aim is to understand:

- fundamental cellular and molecular mechanisms of antimicrobial/anthelmintic resistance
- drivers and risk factors of Vet-AMR spread in India and the UK, including the

generation and sharing of AMR usage datasets

- AMR potential in different ecologies, including the genetics of host and transmission dynamics between wildlife - livestock - humans - environment.

Key research areas for Vet-AMR can include, for example:

- affordable, pen-side diagnostics to detect AMR on farms
- effective therapeutics, including alternatives
- unified protocols and data on antimicrobial usage and resistance across different levels (animal, farm, local, national) to better monitor AMR in India and UK settings.

Projects that focus on the development of models, data and/or integration of social sciences aspects with relevance to both host-pathogen interactions and Vet-AMR are particularly welcome.

We expect to fund a range of proposals which span the 2 research areas. Proposals may focus on either one of the two research areas or work across both of them.

We encourage larger multidisciplinary consortia proposals.

A key goal of the programme is to develop new insights, approaches and technologies that support the needs of users, such as industry, local communities, and national, state, and local-level policymakers and regulators. To achieve this, it is essential that projects are designed in consultation with users and that they are involved throughout. Applicants should set out in their proposals which users are participating in the projects, how they will be engaged, and how the outputs and outcomes address their requirements.

Carrying out research should include careful consideration of context-specific gender and equality challenges and be conducted in a gender-sensitive way.

In all cases, applicants should fully justify the proposed focus of the project and demonstrate how the research will contribute to the delivery of the programme's objectives.

Where appropriate collaboration with industry would be welcomed, however BBSRC and DBT will not provide funding for such collaborators.

Use of animals

Applicants should consider the [BBSRC policy statements](#) on the use of animals in research and must ensure that all of the proposed research, in the UK and in India, will comply with the principles of BBSRC's and other UK funders' [common guidance](#) on "Responsibility in the use of animals in bioscience research".

In particular, UK Institutions should be aware of the following aspect of the guidance relating to research or collaboration outside the UK:

"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 (for example the Animals (Scientific Procedures) Act 1986), and set out in this guidance, are applied and maintained.

Where there are significant deviations, prior approval from the funding body should be sought and agreed.”

Applicants should also be aware DBT’s guidance:

"Institutional and national biosafety guidelines for studies related to usage of infectious agents and/or handling of animals infected with such organisms must be followed. Regulations that control the use of non-human animals for scientific experimentation in India and UK should be considered while preparing the project proposals. Mode of treatment, restraint, alleviation of pain and suffering using appropriate anaesthesia or medication with detailed description of procedures etc. should be provided in the proposal. Handling and disposal of infectious organism or infected animals should also be followed according to local (city) and national norms. Investigators should provide a signed statement that 1) they will follow guidelines for use of animals for research available in UK and in India and that 2) before initiation of the proposed research work, appropriate approvals from Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)/Institutional and/or central animal ethics and biosafety committees will be obtained for experimental protocols to be adopted in their projects.”

If your research involves the use of animals or human participants, you are expected to detail the potential for public concern relating to the research and what you will do during the course of the project to address these concerns.

How to apply

The UK and India participants should submit a joint application to both BBSRC and DBT. Applications submitted to only one funder will not be considered.

The lead UK principal investigator should submit the joint application to BBSRC using the [Joint Electronic Submission \(Je-S\) system](#). Name only UK participants as applicants.

The Indian principal investigator should submit the joint application to DBT using [DBT Electronic Project Management System \(eProMIS\)](#).

Applications may involve researchers from multiple eligible UK institutions but should be submitted as a single Je-S application by the organisation of the lead UK principal investigator.

If successful, the lead organisation would be the recipient of the UK component of the award and would be responsible for managing and distributing funds to other participating UK institutions in accordance with the terms and conditions of the award.

You can find advice on completing your application in:

- the [Je-S handbook](#)
- [Guidance for applicants – BBSRC – UKRI](#)

- [eProMIS](#)

Funding for the Indian component of the collaboration will be paid by DBT to the Indian partner institution(s).

1. Submission of Application to DBT:

Please apply through this link; <https://dbtepromis.nic.in/Login.aspx>

Steps for submission:

- a. Please login to eProMIS account (<https://dbtepromis.nic.in/Login.aspx>)
- b. Go to International Cooperation-Bilateral Programs area
- c. Open Call link for Indo-UK Farmed Animal Disease and Health
- d. Submit proposal

We recommend you start your application early.

Your host organisation will also be able to provide advice and guidance.

Resources (for UK applicants)

You must submit a single Je-S application using full economic costs for UK institutions. Only costs for the UK component of the application should be submitted in the Resources section of the Je-S application.

Please take particular care to request sufficient funds to enable the partnering aspects of the project such as travel and subsistence, in addition to salary and consumables. It is important to agree with all partners how eligible costs for accommodation, in-country travel and subsistence will be covered and by which funding agency, when visiting or hosting overseas partners. This should be explained clearly in the 'Justification of Resources' section of the application and any queries should be directed to the relevant funding agency.

Resources (for Indian applicants)

DBT will fund the Indian consortium members as per requirement of the project, for the project duration, up to 3 years. Budget should be commensurate with the essentiality of participation, workload and objectives of the project and cost of participation.

Please follow DBT guidelines for funding support (Annexure I).

Deadline

BBSRC must receive your application by 11 July 2023 at 4pm (UK time) and DBT by 11 July 2023

at 12pm (India standard time).

You will not be able to apply after this time. Please leave enough time for your proposal to pass through your organisation's Je-S and DBT's submission routes before this date.

You should ensure you are aware of and follow any internal institutional deadlines that may be in place.

Documentation

for UK applicants

Your application must also include the following attachments:

- proposal cover letter (maximum two sides of A4, must include any declaration of interest)
- [case for support](#) (maximum eight sides of A4, including references, figures)
 - specific challenge your project aims to address
 - timeliness and potential impact of your project
 - relevance and benefits to both the UK and India
 - overview of how your proposed activities will progress towards solving the challenge
 - overview of how you will support interdisciplinary working and any necessary training for project participants
 - potential route to translate the outcome into genuine impacts that benefit both countries including communication strategies, dissemination and knowledge exchange
 - if you have an industrial partner, your case for support should also detail:
 - role of your industrial partner
 - nature of their collaboration

industrial partners are not mandatory, nor are they eligible for funding.

- [data management plan](#) (maximum one side of A4)
- [diagrammatic work plan](#) (maximum one side of A4, including milestones)
- [justification of resources](#) (maximum two sides of A4, including information for UK and India costs)
- applicant list (details of the entire project team in both the UK and India, upload as "Other Attachment")
- CVs (up to 2 sides of A4 each) for UK and India participants, including named postdoctoral staff and researcher co-investigators
- copy of the joint project proposal submitted via eProMIS (upload as "Other Attachment")
- partnership and project management statement (maximum one side of A4, upload as "Other Attachment")
 - explain the nature of the collaboration, including whether it is a new or existing collaboration, the complementarity of the partners and how this proposal builds on previous joint work, where applicable

- explain how the partnership represents a true collaboration between the transnational research teams, and the added value of this collaboration
- description of how the proposed project will be managed across the international project team
- [signed statement about animal use](#) (required for applications involving animal research conducted outside the UK)
- [additional questions on the use of animals](#) (required for applications involving animal research conducted outside the UK on:
 - rodents
 - rabbits
 - sheep
 - goats
 - pigs
 - cattle
 - *Xenopus laevis* and *Xenopus tropicalis*
 - zebrafish)
- [NC3Rs standardised questions about the use of pigs](#) (required for applications involving the use of pigs)

for Indian applicants

For a DBT submission, the joint project proposal must be submitted along with all supporting documentation required by the funding organization. All documents and forms required for the application are accessible online. Please refer **Annexure I** for submission of proposal.

How we will assess your application

All applications will be handled in the strictest of confidence. Each application will be sent to reviewers in India and the UK. The responses received from reviewers will be sent to the UK lead principal investigator of the project to coordinate a response from all of the applicants addressing any questions or criticisms in the reviews.

Following peer review, DBT and BBSRC may invite applicants to give a short presentation of their proposed work to a joint assessment committee comprised of funder representatives and independent external panel members from India and the UK. Applications must attain a positive rating to be considered eligible for funding.

The joint assessment committee will thoroughly examine the proposals and reach consensus within the overall budget framework of the two contributing organizations about which projects

should be funded. DBT and BBSRC will jointly agree the successful applications, decisions made will be final.

Once a consensual decision has been reached DBT and BBSRC will follow their organization's standard processes to notify applicants about their funding decisions.

Assessment criteria

Applications will be assessed with reference to the scope of the opportunity and against the following assessment criteria.

Scientific excellence

This includes:

- specific objectives of your project and whether they demonstrate excellence and originality
- appropriateness of your proposed activities, with a clear and well-developed rationale for engaging partners with appropriate skills from relevant disciplines
- your project's potential to make a significant contribution to the advancement of the area.

Timeliness and potential impact

This includes:

- potential scale of impact arising from your proposed research
- applicability of the research to possible user applications
- potential of your proposed project to build a foundation for further investment.

International Partnership

This includes:

- your proposed project represents a true collaborative partnership between transnational research teams
- added value of such collaborations should be clearly highlighted within the proposal
- relevance and benefits to both the UK and India
- an integrated work plan and an equal commitment to the project in terms of effort.

Projects that appear to be working in parallel with little interaction between the countries will not be supported.

Capability to deliver

This includes:

- capabilities and sustainability of your assembled research team to deliver the proposed research
- feasibility of delivering the proposed programme of work within the three-year time frame of the funded grant
- a clear plan for supporting interdisciplinary work and training for project participants.

Reviewers will be asked to comment on research involving animals and ethical or societal issues raised by the proposed work to ensure best practice is followed.

Contact

Get help with developing your proposal

For help and advice on costings and writing your proposal please contact your research office in the first instance, allowing sufficient time for your organisation's submission process.

Ask about this funding opportunity

BBSRC enquiries

Ioanna Kostaki, Senior Portfolio Manager, RSP-International

Email: bbsrc.iru@bbsrc.ukri.org

Include 'FADH' in the subject line.

DBT enquiries

Dr. Vinita Nitin Chaudhary
Scientist 'E'
International Cooperation Division-Bilateral Programs
Department of Biotechnology
vinita.chaudhary@nic.in

Get help with applying through Je-S

Email

jeshelp@je-s.ukri.org

Telephone

01793 444164

Opening times

[Je-S helpdesk opening times.](#)

Get help with applying through e-ProMIS**Email**

epromis.dbt@nic.in

Additional information

Collaborative agreements

If an application is funded, collaborative agreements between all partners must be put in place before research commences. Agreements should be written in line with UK Research and Innovation (UKRI) research grant terms and conditions to clearly define each partner's role on the grant and clarify the Intellectual Property Rights (IPR) position. You are advised to carefully consider these arrangements and discuss and agree them where necessary with project partners in developing the grant proposal.

Agreements must not conflict with BBSRC or DBT terms and conditions or national laws.

If the project is subsequently funded, the collaborative agreements must be available on request to BBSRC and DBT in due course.

Transfer of biological materials

Collection and exchange of materials may occur between collaborating institutions, as necessary, in compliance with relevant Indian and UK legislation. Applicants should familiarise themselves with regulations surrounding the transfer of materials between countries when writing their applications and should ensure that they obtain appropriate guidance on how to go about this before submitting the application, in order to reduce delays once the grant has started.

In any case, a material transfer agreement should be put in place prior to any transfer.

Supporting documents

UK applicants

Provide a list of specific documents that applicants need to submit to you or through Je-S. For example:

- an expression of interest form
- an equality impact assessment form.
- Je-S guidance.

You can indicate where they need to be linked to in the text throughout, but we will also list them together in 'Additional information' under a subheading named 'Supporting documents'.

- applicant list template
- DBT proforma
- additional questions on the use of rodents overseas
- additional questions on the use of rabbits overseas
- additional questions on the use of sheep overseas
- additional questions on the use of goats overseas
- additional questions on the use of pigs overseas
- additional questions on the use of cattle overseas
- additional questions on the use of *Xenopus laevis* and *Xenopus tropicalis* overseas
- additional questions on the use of zebrafish overseas
- NC3Rs standardised questions about the use of pigs template.

Indian applicants

DBT Guidelines (Annexure I)

Related content

Webinar

BBSRC and DBT will hold an informative webinar to support this funding opportunity week beginning 22 May.