



Department of Biotechnology



UK-India Antimicrobial Resistance Sandpit Event: 'Addressing the challenge of antimicrobial resistance in India' Call for Expressions of Interest

Date of sandpit: 6-10 November 2017

Location: Delhi, India

Closing date for applications: 16:00 on 11 September 2017

The UK Research Councils and the Department of Biotechnology, Government of India (DBT) are pleased to invite expressions of interest to participate in an Antimicrobial Resistance Sandpit. This sandpit will lead to collaborative research projects aimed at addressing the issue of antimicrobial resistance (AMR) in humans and animals in India. The sandpit will facilitate the formation of teams and development of outline proposals that will subsequently be developed into full proposals for submission to the UK Research Council-DBT Antimicrobial Resistance Initiative. Successful proposals developed through the sandpit will be jointly funded by the UK Research Councils and DBT.

This document explains the process for UK-based researchers to submit expressions of interest in attending the sandpit. DBT will invite expressions of interest from India-based researchers.

Applications are invited from UK-based academics eligible to receive funding from any UK Research Council.

Background to the sandpit

In November 2016, UK and DBT in cooperation with other Indian stakeholders established an **RCUK - India Strategic Group on AMR** to explore mechanisms for developing the evidence base to address AMR. The purpose of this group is to agree priority areas for UK-India research in AMR. At their meeting in July 2017 the group confirmed their intention to jointly support research on AMR. Under the joint initiative £6.49 million will be available for UK elements of funded proposals, with matched commitment from the Indian side.

Within this collaboration, the overarching aims of this sandpit will be to:

- Build UK-India teams focussed on AMR research
- Support development of truly interdisciplinary proposals, including those that take a 'One Health' approach

- Develop outline research proposals that will make a tangible difference to tackling AMR in India.

There will ultimately be two types of proposal enabled through this initiative:

- **Collaborative grants:** a small number of multi-partner larger system-level projects aimed at understanding the functioning of various parts of the system, as well as the system as a whole, and which will thereby deliver the type of integrated output required for a step change in tackling AMR.
- **Small grants:** multi-partner, small and targeted projects that address specific research gaps in knowledge.

Where appropriate, links between two types of grants will be encouraged to ensure that research from small grants is integrated into collaborative grants. Details of requirements for both types of grants will be provided at the sandpit.

For practical purposes, ESRC is leading the UK aspects of this collaboration on behalf of the UK Research Councils; DBT is leading this initiative from India. However, interdisciplinarity will be a requirement for all proposals.

Scientific scope

Antimicrobial resistance and specifically antibacterial resistance is an increasingly serious threat to public and animal health, as well as the environment. Developing, prioritising, and understanding the drivers of resistance is crucial to developing appropriate and effective responses.

The specifics of proposed project ideas will be formed by discussions at the sandpit. Projects will take a systems approach, seeking to identify the primary drivers of antimicrobial resistance in India, including the interplay between different factors, and potential solutions. Applicants to the sandpit should have an interest in bringing expertise in one or more of the following areas to bear on a systems level interdisciplinary approach to tackling the issue:

- Understanding microbial resistance from genomic through to cellular and host pathogen interaction levels in both human and animal hosts.
- Understanding the interactions of resistant bacteria with the environment, including their release and spread. Here the 'environment' is seen in its broadest sense from host tissues to man-made settings and natural environments.
- Understanding the economic and social dimensions of antibiotic use, prescription, dosage, and distribution in human health and livestock production, in order to develop effective intervention strategies.

Identification of potential strategies to address the challenge of AMR will be important. Research undertaken must primarily benefit India to be eligible for this initiative; however research which has wider benefits will also be welcomed.

This initiative is specifically targeted at resistant bacteria of humans and animals rather than other classes of pathogens and other target species. Proposals that are relevant to other classes of pathogen will be permissible only if the primary focus is clearly bacterial/antibiotics.

Funding

The Newton Fund

On the UK side, this initiative will be funded by the Newton Fund. The Newton Fund, known as the Newton-Bhabha Fund in India, builds research and innovation partnerships with 18 partner countries to support their economic development and social welfare, and to develop their research and innovation capacity for long-term sustainable growth. The Newton-Bhabha Fund is now the major bilateral initiative for facilitating research and innovation collaborations between the UK and India. Under this partnership, the UK will contribute up to £104 million to Newton-Bhabha up to 2021, which is match-funded by India, to address key global challenges. The Newton Fund is managed by the UK Department for Business, Energy and Industrial Strategy (BEIS), and delivered through 15 UK Delivery Partners, which include the Research Councils, the UK National Academies, the British Council, Innovate UK and the Met Office.

The Newton-Bhabha Fund

The India edition of the Newton Fund is known as the Newton-Bhabha Fund which is now the major bilateral initiative for facilitating research and innovation collaborations between the UK and India. Under this partnership, the UK will contribute up to £104 million to Newton-Bhabha up to 2021, which is match-funded by India, to address key global challenges of Sustainable cities and urbanization, Public health and wellbeing, Energy-food-water nexus and Understanding oceans. These are underpinned by two capabilities: Big Data and High Value Manufacturing.

The Newton Fund forms part of the UK's Official Development Assistance (ODA) commitment which is monitored by the Organisation for Economic Cooperation and Development (OECD). ODA-funded activity focuses on outcomes that promote the long-term sustainable growth of countries on the OECD Development Assistance Committee list. Newton Fund countries represent a sub-set of this list.

Department of Biotechnology, Government of India

On the Indian side, this AMR initiative will be funded by DBT. DBT is the nodal agency under the Ministry of Science and Technology, Government of India for the promotion of research, development and innovation in the field of biotechnology. DBT funds and supports all Indian universities, research organisations, non-governmental organisations and industry working in the area of biotechnology.

Antimicrobial Resistance Sandpit

The Antimicrobial Resistance Sandpit will be an intensive workshop which will bring together 40 academics from across the UK and India to facilitate the development of interdisciplinary research proposals which will address challenges relating to antimicrobial resistance in India.

The Antimicrobial Resistance Sandpit will run over 3.5 days starting mid-day on day one and finishing late afternoon on day four. At the outset, the participants will work collaboratively to identify and define the scope of the challenges relating to antimicrobial resistance in India. As the sandpit progresses, participants will build up thoughts on how the identified antimicrobial resistance challenges facing India may be addressed, and develop their innovative ideas and activities into outline research proposals. The outline proposals generated at the Antimicrobial Resistance Sandpit will undergo assessment immediately following the event. Successful outline proposals will be invited to submit full proposals via ESRC. Full proposals will then be assessed by an interdisciplinary UK-India commissioning panel.

How will the sandpit work?

A sandpit is an intensive, interactive workshop designed to produce highly innovative research proposals. Participants from a diverse range of disciplines come together in a creative free-thinking environment - away from their everyday routines and responsibilities - and immerse themselves deeply in a collaborative process around an important challenge.

The nature of the sandpit requires the development of a high degree of trust between participants in order to make the required breakthroughs in thinking. This trust extends to allowing the free and frank exchange of ideas, some being in the very early stages of development. The aim of the sandpit is not to discuss ideas that are already well-developed but not yet published. Rather, the goal is to bring individuals from different disciplines together to interact and engage in free thinking on first principles, to learn from one another and create an integrated vision for future research projects. While the sharing of these ideas is strongly encouraged within the sandpit, participants are asked to respect confidentiality outside of the sandpit.

The sandpit will be led by a director whose role will be to assist in defining the topics and aid facilitated discussions at the event. The director will be joined by a small number of mentors. The mentors will be selected by the Research Councils and DBT, based on their intellectual standing, their impartiality and objectivity, and their broad understanding of, and enthusiasm for, the subject area. The director and mentors will take full part in the sandpit but will not be eligible to receive research funding under this collaborative activity. They will therefore act as impartial peer reviewers in the process.

Who should apply to participate?

Having the right mix of participants influences the success or failure of such an event. Contributions to this challenge could be made by researchers working in a variety of disciplines or research areas. This could include biologists, chemists, design researchers, environmental scientists, bioinformaticians, engineers and economists. However, we are not defining the disciplines that should be represented at the Antimicrobial Resistance Sandpit;

rather, we are asking potential participants to indicate how their expertise can address the challenge of antimicrobial resistance in India.

It would be beneficial for applicants to have some prior knowledge of the challenges associated with AMR in India, but more importantly applicants will need to demonstrate an enthusiasm for cross-disciplinary research, as the future of this research area will require input from many disciplines.

The ability to develop and pursue a new approach will also be crucial. Expertise is required from a very broad range of disciplines, and applicants should not feel limited by conventional perceptions: the sandpit approach is about bringing people together who would not normally interact. Researchers who are experts in a relevant research area but have not yet directly applied their expertise to this challenge are eligible to apply.

This is an opportunity to share ideas and develop future collaborations. Participants are welcomed at any stage of their research career, providing they are eligible to lead applications for funding from any UK Research Council.

Eligibility

Applications are invited from individual researchers who can contribute to the sandpit and the resulting research projects. Up to 20 UK participants will be identified to take part. UK applications must be from researchers eligible to receive funding from any UK Research Council.

DBT will run a parallel, but separate, process to select up to 20 Indian applicants. Participants will be chosen to allow equal and complementary representation from the UK and India.

Location and date

This sandpit will be held in/around Delhi, India in the w/c 6 November 2017.

Submission of an application will be taken as confirmation that the applicant is available to attend on the specified dates, and will make a commitment to attend if selected. Additional details of the location, venue, visa, travel and the accommodation arrangements will be provided to those invited to participate. It should be noted that all travel to the sandpit, visa costs, overseas accommodation, refreshments, breakfast, lunch and dinner costs will be met by ESRC and DBT. However, all incidental costs incurred whilst at the event must be met by the participant.

How to apply

Applicants should complete an online Expression of Interest form which can be accessed on the ESRC website at www.esrc.ac.uk/funding/funding-opportunities/addressing-the-challenge-of-antimicrobial-resistance-in-india/. Guidance on how to complete this form is available at via the same link. The deadline for applications is **16:00** on 11 September 2017

In order to participate, applicants must be available for the whole of the w/c 6th November (one day of the weekend either side of this week might be needed for travel). They must also be able to obtain a visa and travel to India.

Please note: Expressions of Interest received after the deadline for applications will not be considered. Applicants will be notified of the outcome of their application to attend the sandpit event by the end of September 2017. If successful, information provided in the background and expertise section of the Expression of Interest form will be made available to everyone invited to attend the sandpit, to facilitate networking and collaboration at the event.

The information provided on the Expression of Interest form will be used to assess your application and demonstrate that you have the suitable skills and attitude to participate in the Antimicrobial Resistance Sandpit.

Assessment criteria: Expression of Interest

Expressions of Interest to attend the sandpit will be considered by a small selection panel comprising external experts and staff from the UK Research Councils and DBT.

Overall, the selection panel's assessment will be based on the specific criteria outlined below:

- Strength of AMR-relevant research expertise
- The ability to develop new and highly original research ideas
- The potential to contribute to research between disciplines
- The ability to work in a team across academia and nations
- The ability to explain research to non-experts.

The selection panel will seek to ensure that a balance of expertise is present at the sandpit.

Please ensure you fully complete all sections of the Expression of Interest form, as this is the only information on which potential sandpit attendees will be selected. It is therefore important that you give evidence of the expertise that you will bring in your application. Please note that ESRC will not be able to give individual feedback to unsuccessful applicants.

Submission of full proposals

Attendance at the sandpit does not guarantee funding. Immediately after the sandpit has ended, a number of the outline applications that have been developed will be shortlisted. Shortlisted applicants will then be invited to submit full proposals. Further guidance on the process for submitting full proposals will be provided at the sandpit. The following is a summary:

All full proposals will have both a UK and an Indian principal investigator (PI), as well as co-investigators from both countries as appropriate to the research proposed. Only attendees present at the Antimicrobial Resistance Sandpit will be eligible to be a PI on full proposals. Proposals will be able to include researchers not present at the sandpit as co-investigators

providing there is a clear rationale for their inclusion. As the initiative is Newton funded, proposals will need to comply with ODA funding requirements.

Participants involved in the projects developed during the sandpit will be tasked with writing full proposals covering their intended activities as identified at the sandpit. The deadline for submission of proposals generated at the sandpit will be mid December 2017. Applicants to the sandpit should therefore plan in the possibility of time needed to work on full proposals following the event. Full proposals must be submitted on the UK Research Councils' submission system, Je-S, and simultaneously to DBT. Successful proposals will be funded by ESRC on behalf of the UK Research Councils (using Newton Fund) and DBT India. It is anticipated that projects will start in June 2018 and be up to three years' duration.

Timetable

Stage	Date
Deadline for submission of expression of interest	11 September 2017
Notify applicants of outcome of expression of interest stage	w/c 25 September 2017
Dates of Antimicrobial Resistance Sandpit	w/c 6 November 2017
Deadline for submission of full proposal	Mid December 2017
Funding decisions announced	February 2018
Projects commence	June 2018

Further information

For any enquiries from UK researchers regarding eligibility, scientific remit, the sandpit event or the application process, please contact: amr@esrc.ac.uk. Alternatively, contact:

- Naomi Beaumont
Telephone: 01793 413058
- Cora Jaitner
Telephone: 01793 413101

DBT will select Indian participants for the sandpit via a separate process. For any enquiries from India-based researchers please contact: Dr Sanjay Kalia, sanjay.kalia@nic.in

Queries from prospective applicants may be shared across funders involved in this initiative.