

# 2020 BBSRC–NSF/BIO lead agency opportunity

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| <b>Opportunity status:</b> | Closed   |
| <b>Funders:</b>            | <a href="#">Biotechnology and Biological Sciences Research Council (BBSRC)</a> |
| <b>Co-funders:</b>         | National Science Foundation Directorate for Biological Sciences (NSF/BIO)      |
| <b>Funding type:</b>       | Grant  |
| <b>Publication date:</b>   | 28 August 2020   |
| <b>Opening date:</b>       | 28 August 2020   |
| <b>Closing date:</b>       | 21 October 2020 16:00 UK time  |

*Last updated: 28 October 2020*

The lead agency scheme allows US and UK researchers to submit a single collaborative proposal that will undergo a single review process by the lead agency.

In 2020, proposals will be accepted for UK-US collaborative projects in the areas of intersection between NSF/BIO and BBSRC:

- biological informatics
- microbes and the host immune system
- quantum biology
- synthetic cell.

Proposers must provide a clear rationale for the need for a US-UK collaboration, including the unique expertise and synergy that the collaborating groups will bring to the project.

[Open all](#)

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## Who can apply

Proposals will be accepted from anyone who is normally [eligible to apply for UKRI-BBSRC funding](#).

Please refer to NSF guidance for US partners.

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## What we're looking for

### 2021 notice of intentions

The lead agency scheme allows US and UK researchers to submit a single collaborative proposal that will undergo a single review process by the lead agency, on behalf of both NSF/BIO and BBSRC.

In 2020, proposals will be accepted for UK-US collaborative projects in the areas of intersection between NSF/BIO and BBSRC as set out below.

Proposals must address the priorities of both BBSRC and participating NSF/BIO Divisions. Proposers must provide a clear rationale for the need for a US-UK collaboration, including the unique expertise and synergy that the collaborating groups will bring to the project.

Proposers should note that the lead agency scheme does not represent new or ring-fenced funding. Proposals will be assessed in competition with all others submitted to our normal solicitations/responsive mode round, and outcomes will be subject to both success in peer review and the availability of funds from both BBSRC and NSF/BIO.

### Biological informatics

Development of novel informatics approaches and cyberinfrastructure resources to enable novel and effective use of data in biological research, addressing key challenges faced by researchers and supporting generation of new knowledge from biological data.

Proposals must be aligned to both NSF's Division of Biological Infrastructure programs in informatics and cybersecurity and BBSRC's [Data Driven Biology](#) Responsive Mode priority. In addition, principal investigators are advised to consult the appropriate program officer to ensure that their portion of the project is compliant with the targeted program.

Full proposals for biological informatics should be submitted to one of the following:

- [National Science Foundation: 18-595 Infrastructure Innovation for Biological Research \(IIBR\)](#)
- [National Science Foundation: 18-594 Infrastructure Capacity for Biology Core Program \(ICB\)](#)
- BBSRC Responsive Mode 21RM1

### Microbes and the host immune system

Proposals are invited that take an integrated approach to answer important questions relating to the immune system and host-microbe interactions. Microbes impact their hosts in manners that result in greatly different outcomes, which can include symbiotic, mutualistic or pathogenic infection. Key to these outcomes is the response and resilience of the host innate and adaptive immune system, as well as the microbial players (bacterial, fungal, viral) and the underlying physiological context.

Relevant areas of investigation include systems using genetically similar hosts or microbes that result in different phenotypic outcomes of infection. The use of comparative cross-species approaches to develop insights that have broad relevance across biological organisms is encouraged, as is research to understand the influence of coinfection and the wider microbiome, and the influence of host physiology through the life course. Proposals should aim to identify molecular mechanisms or develop systems-level understanding. Proposals that focus on industrial applications will not be accepted. Proposals that focus solely on human or mouse immune systems will not be accepted. Proposals must aim to progress knowledge of immunology in non-human animals or plants.

Full proposals for microbes and the host immune system should be submitted to one of the following:

- [National Science Foundation: 18-586 Division of Integrative Organismal Systems Core Programs](#)
- BBSRC Responsive Mode 21RM1

## **Quantum biology**

Proposals are invited that seek to investigate the biological molecules and biomolecular systems that give rise to quantum mechanical effects in living organisms. Studies have shown that such phenomena are important to a number of fundamental biological processes, including photosynthesis, olfaction, cellular respiration and vision, yet the specialised features that enable such effects are not well understood.

Relevant areas of investigation include the features of proteins that enable quantum effects to occur at physiological temperatures, and the significance of the relatively large size of most protein complexes that exhibit quantum phenomena in contributing to the superposition of quantum states that give rise to quantum entanglement or quantum coherence. Mechanistic insight into the extended coherence times observed in biological systems are also of interest.

In addition to biophysical mechanisms, proposals that aim to provide insights into the prevalence of quantum phenomena in biological systems across the tree of life and their evolutionary origins are also welcome.

Proposals must aim to progress biological understanding and are expected to integrate research and methodologies from both (bio)physics and biology.

Full proposals for quantum biology should be submitted to one of the following:

- [National Science Foundation: 18-585 Division of Molecular and Cellular Biosciences: Investigator-initiated research projects \(MCB\)](#)

- BBSRC Responsive Mode 21RM1

## Synthetic cell

Can we design, build and control a synthetic cell? Realising this grand challenge will enable us to uncover the molecular and physical organisation of cells that enable storage and transmittal of information, capture and transformation of energy, and adaptation and regulation of cellular systems that make life possible. Natural cells emerge from the coordinated operation of a large number of biomolecules with their environment. One goal of synthetic cell research is to decipher the basic requirements of a living cell by understanding the myriad functions that make it resilient and adaptive. To this end, proposals are expected to focus on building a synthetic cell in order to understand biology. For example, the identification of genes, metabolic pathways and cellular components and the molecular mechanism by which they exert their function can inform and accelerate the design and building of synthetic cells. Such cells might be protocells containing only the most basic cellular components that allows an understanding of the origin of life, artificial cells that contain both natural and synthetic cellular components or minimal cells that use natural molecules to build self-replicating cellular entities through 'bottom up' approaches. Proposals focused exclusively on building a synthetic cell as a biomanufacturing platform or as a therapeutic moiety will not be accepted.

Full proposals for synthetic cell should be submitted to one of the following:

- [National Science Foundation: 18-585 Division of Molecular and Cellular Biosciences: Investigator-initiated research projects \(MCB\)](#)
- BBSRC Responsive Mode 21RM1

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## How to apply

There is a two-stage application process (see timeline below).

### Stage one: Intention to submit

Prior to submission of a full proposal, proposers will discuss within their research team where they feel the largest proportion of research lies (typically, this means largest budget request) and agree on a proposed lead agency (either NSF/BIO or BBSRC).

Where advice is required about lead agency or fit of the proposal to the written notice of intentions the proposer should contact the relevant staff member at the proposed lead funding agency to discuss the research project.

The staff member will then confirm that they will act as lead funding agency (and subsequently inform other participating agency) or will consult with the other agency to identify a new lead funding agency prior to returning a decision to the proposer (generally within ten working days).

Proposers will then be required to submit an Intention to Submit (ITS) to the proposed lead agency that outlines the research proposed, research teams involved, and bottom line estimates of funding to be requested from the NSF/BIO and BBSRC.

The ITS should not exceed 2 pages.

Where BBSRC is the proposed lead agency the Letter of Intent should be submitted via the Je-S system (see further guidance and ITS template in application downloads below).

Where NSF/BIO is the proposed lead agency the ITS should be submitted via email to [nsfbiobbsrc@nsf.gov](mailto:nsfbiobbsrc@nsf.gov). The ITS must identify the participating program to which the ITS is directed.

The ITS will be shared with the non-lead agency to check for:

- eligibility (namely whether the proposed research fits within the participating agencies' portfolio
- the scope of the notice of intentions
- whether the proposed researchers and institutions meet the agencies' funding eligibility requirements).

The ITS will also be used to gauge proposal pressure by program and assist programs with budget planning.

When submitting an ITS to BBSRC through Je-S please select:

- council: BBSRC
- document type: Outline proposal
- scheme: Standard outline
- call/type/mode: NSF/BIO expression of interest

## **Stage two: Full proposals**

Proposers who are invited to submit a research proposal will do so in accordance with the proposal preparation requirements of the lead agency.

For example:

- for NSF, the proposal and award policies and procedures guide
- for BBSRC, the BBSRC grants guide.

The proposal should include a description of the full proposed research program and research team and describe the total resources for the joint project (that is, the funds requested from both the NSF/BIO and BBSRC). However, the budget forms submitted to the lead agency should only indicate the amount requested from that agency.

A copy of the proposed requested budget of the non-lead agency should be included as part of the full proposal (in the case of NSF, this should be added as a "Supplementary Document"; in the case of BBSRC, this should be added as an attached document to the grant application).

For projects involving human subjects or participants, or animals, proposers will be advised about both NSF/BIO and BBSRC policies and will be advised to consult with appropriate staff at NSF/BIO or BBSRC prior to submitting a proposal.

The proposal should indicate the proposal is to be considered under this Lead Agency Management Plan Agreement by prefacing the title with 'BBSRC-NSF/BIO'.

The proposal will be submitted by established program deadlines or target dates determined by the lead agency. For NSF/BIO, proposals may be submitted at any time after the full proposal is invited, but must be submitted within 6 months of the ITS to be considered for funding during the FY21 fiscal year.

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## **How we will assess your application**

### **Peer review**

Proposals will be reviewed in competition with other unsolicited proposals or with proposals received in response to a specific call by the lead funding agency (that is, proposals submitted to the Lead Agency Management Plan Agreement will not undergo a special review process).

Proposals will be reviewed in accordance with the lead agency's review criteria. While not identical, the NSF/BIO and BBSRC ask reviewers to evaluate the proposed project on both its scientific or intellectual merit as well as its broader or societal impacts.

A description of the NSF merit review process is provided on the NSF merit review website.

A description of the BBSRC assessment process is provided on the BBSRC website.

### **Funding decision**

After the reviews are received, program directors from the lead and non-lead agencies will discuss the potential outcomes.

Afterwards, the lead agency will use its usual internal procedures to determine whether a proposal will be awarded or declined. In the case of NSF, an award requires a formal recommendation by the Program Officer and then concurrence by the cognizant Division Director.

NSF's Division of Grants and Agreements will review the proposal from a business and financial perspective. NSF funding decisions are subject to the availability of funds. Only the NSF Grants Officer can make commitments on behalf of the Foundation or authorise the expenditure of funds.

In the case of the BBSRC, funding recommendations from Panels are received by Research Council Officers who, taking into account the availability of funds, will

fund those proposals recommended for funding in the order identified by the Panel.

Proposers will be advised whether their proposal has been recommended for funding or will be declined by the lead funding agency. Proposers will receive copies of the unattributed reviewers' comments and, where applicable, a panel summary.

Once a proposer has been notified of a pending award, the non-lead researcher(s) associated with the project must submit a copy of the proposal to the non-lead agency so that each agency has complete documentation of the overall proposed research project.

If a proposal is recommended for funding, the US organisation(s) will be supported by NSF/BIO and the UK organisation(s) will be supported by BBSRC. NSF/BIO and BBSRC staff will review budgets to ensure that there are no duplications in funding.

Because the participating organisations have different funding cycles, it is possible that some projects will have delayed start dates in order to wait until funds become available.

## **Award conditions and reporting requirements**

NSF/BIO and BBSRC will clearly state in award notices and any related documents that awards resulting from this activity were made possible by the NSF/BIO-BBSRC Lead Agency Management Plan Agreement.

Awardees will be expected to comply with the award conditions and reporting requirements of the agencies from which they receive funding.

Researchers will be required to acknowledge both NSF and BBSRC in any reports or publications arising from the grant.

Requests for extensions will be considered by the funding agency using standard procedures. Requests for changes to awards will be discussed with other involved funding agencies before a mutual decision is reached.

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## **Contact details**

NSF/BIO, email: [nsfbiobbsrc@nsf.gov](mailto:nsfbiobbsrc@nsf.gov)

BBSRC International Collaborative Agreements, email: [inca@bbsrc.ukri.org](mailto:inca@bbsrc.ukri.org)

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## **Additional info**

UK Research and Innovation and NSF have signed a Memorandum of Understanding (MoU) to facilitate excellent joint research and innovation activities. It allows for a collaborative approach to the design and implementation of peer review with the aim of avoiding 'double jeopardy' and ensuring a simplified and

flexible process for researchers wishing to apply for UK-US collaborative research funding.

The MoU provides for a lead agency arrangement whereby proposals may be submitted to either NSF (via FastLane) or BBSRC (via Je-S).

The NSF Directorate for Biological Sciences (NSF/BIO) and BBSRC are pleased to announce continuation of lead agency arrangements under a new five-year management plan. The lead agency scheme allows for reciprocal acceptance of peer review through unsolicited mechanisms and its goal is to help reduce some of the current barriers to working internationally. For further information, please see: UK Research and Innovation: [UKRI-NSF Memorandum of Understanding](#)

## Supporting documents

- [UK BBSRC-US NSF BIO Lead Agency Scheme 2020\\_21 Intention to submit form \(DOCX 28KB\)](#)
- [BBSRC-NSF BIO Lead Agency Opportunity 2020 Further guidance \(DOCX 52KB\)](#)
- [UK BBSRC-US NSF BIO Lead Agency Scheme 2020\\_21 UK partner budget proforma \(DOC 114KB\)](#)
- [UK BBSRC-US NSF BIO Lead Agency Scheme 2020\\_21 US partner budget template \(DOC 112KB\)](#)
- [UK BBSRC-US NSF BIO Lead Agency Management Plan \(PDF 147KB\)](#)

You may need to download additional [plug-ins](#) to open this file.

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## Timeline

- **28 August 2020**  
Opening date
- **21 October 2020 16:00**  
Intention to submit application deadline
- **13 January 2021 16:00**  
Full stage application deadline



NOTE This is the first phase of our new website – let us know if you have [feedback](#) or would like to [help us test new developments](#).

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