



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 18-072

Dear Colleague Letter: BBSRC-NSF/BIO Lead Agency Opportunity in Bioinformatics and Synthetic Biology

April 18, 2018

Dear Colleagues:

SCOPE

The U.S. National Science Foundation (NSF) and the Research Council Biotechnology and Biological Research Council (BBSRC)* have signed a Memoranda of Understanding (MOU) on Research Cooperation. The MOU provides an overarching framework to encourage collaboration between US and UK research communities and sets out the principles by which jointly supported activities might be developed. The MoU provides for a lead agency arrangement whereby proposals may be submitted to either NSF (via FastLane) or BBSRC (via Je-S).

Following a two-year pilot program, the NSF Directorate for Biological Sciences (NSF/BIO) and the Biotechnology and Biological Sciences Research Council (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.

2018 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 2018 proposals will be accepted for UK-US collaborative projects in the areas of intersection between NSF/BIO and BBSRC as set out in the notice of intentions.

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.

Proposals relevant to the following priority areas and agency programs are eligible to apply for the lead agency scheme in 2018.

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 Advances in Biological Informatics program and BBSRC's [Data Driven Biology](#) Responsive Mode priority. In addition, PIs are advised to consult the appropriate program officer to ensure that their portion of the project is compliant with the targeted program.

Proposals should be submitted to:

[NSF 15-582](#)

BBSRC Responsive Mode 18RM3

Synthetic approaches to address fundamental biological questions

- *Synthetic Biology*: Novel synthetic biology approaches to explore fundamental rules of life. Proposals must address foundational questions about principles that underpin biological systems such as: robustness in the organization and properties of biological regulatory networks, minimal genome design principles, synthetic protocell construction and fitness, origins of life, evolutionary constraints of biological processes, and emergent behaviour. It is expected that proposals will employ innovative synthetic biology methodologies and they may require mathematical or computational modelling to address complex systems-level challenges. Proposals focused solely on application of genome editing tools to explore the role of individual genes or pathways, or exclusively focused on production of value added chemicals without reference to innovation in synthetic biology tools or exploring fundamental rules of life will not be accepted.
- *Synthetic microbial communities*: Use of constructed or well defined complex microbial communities within controllable environments to address fundamental questions relating to the mechanisms of interaction of communities, and of these communities with a non-

human host. These studies should lead to the elucidation of principles governing the assembly, dynamics, stability and vulnerability to disturbance of the microbiome, including the influence of biotic and abiotic factors (viral, microbial, host, environmental). It is expected that these proposals will enable the identification of the functional properties of the microbiome, including relationships between rare and abundant microbial species, the metabolic and signaling interactions taking place in the community and between the community and the host, and the genes and molecules driving the microbiome-host relationship. Proposals that focus on the design, build and testing of synthetic microbial communities for industrial application or whose focus is on human health will not be accepted.

Proposals should be submitted to:

[NSF 17-589](#)

BBSRC Responsive Mode 18RM3

PROPOSAL PREPARATION AND SUBMISSION

There is a 2-stage application process (see timeline below).

Stage 1: Intention to Submit

1. 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).
2. Proposers will then be required to submit a PDF Intention to Submit (ITS) by email 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.
 - a. Where BBSRC is the proposed lead agency the Letter of Intent should be submitted via the Je-S system (see further guidance on BBSRC website).
 - b. Where NSF/BIO is the proposed lead agency the ITS should be submitted via email to NSFBIOBBSRC@nsf.gov. The ITS must identify the participating program

to which the ITS is directed.

3. 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 and 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.

Stage 2: Full Proposals

1. Proposers who are invited to submit a research proposal will do so in accordance with the proposal preparation requirements of the lead agency, e.g. for NSF, the Proposal and Award Policies and Procedures Guide and for BBSRC the BBSRC Grants Guide.
2. 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).
3. For projects involving human subjects/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.
4. 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".
5. 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 FY19 fiscal year.

PEER REVIEW

1. 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).

2. 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 at: https://www.nsf.gov/bfa/dias/policy/merit_review/index.jsp. A description of the BBSRC assessment process is provided on the BBSRC website at: <http://www.bbsrc.ac.uk/funding/apply/apply-index.aspx>.

FUNDING DECISION

1. 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 authorize 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.
2. 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.
3. 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.
4. If a proposal is recommended for funding, the US organization(s) will be supported by NSF/BIO and the UK organization(s) will be supported by BBSRC. NSF/BIO and BBSRC staff will review budgets to ensure that there are no duplications in funding.
5. Because the participating organizations 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

1. 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.
2. Awardees will be expected to comply with the award conditions and reporting requirements of the agencies from which they receive funding.
3. Researchers will be required to acknowledge both NSF and BBSRC in any reports or publications arising from the grant.
4. 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.

TIMELINE FOR SUBMISSIONS

Deadline for ITS (BBSRC and NSF/BIO)
12th June 2018, 17:00 Eastern Standard Time (22:00 GMT)

Feedback on ITS will be provided three weeks after the submission deadline.

FULL PROPOSALS

BBSRC Responsive Mode 18RM3 Application Deadline
25th September 2018, 11:00 Eastern Standard Time (16:00 GMT)

NSF/BIO
Full Proposals Accepted Anytime

CONTACT

BBSRC International Collaborative Agreements
Email: inca@bbsrc.ac.uk

EXTERNAL CONTACT

NSF/BIO BBSRC Working Group
Email: NSFBIOBBSRC@nsf.gov

* From April 2018, UK Research and Innovation (UKRI) will be created as a result of the UK Higher Education and Research Act. This will be the new funding organisation for research and innovation in the UK. It brings together the seven UK Research Councils, Innovate UK and Research England.

The creation of UKRI replaces the need for a strategic partnership of the UK's seven Research Councils, in the form of Research Councils UK (RCUK). As a result, **the functions of RCUK will be replaced by UKRI, and the management of the Memorandum of Understanding (MoU) between NSF and RCUK will be transferred to UKRI effective 1 April 2018.**

NSF is working with our colleagues in the UK to update individual agreements under this MoU as needed. Activities and processes that have been agreed under the MoU between NSF Directorates and individual Research Councils will not be impacted.

Please note that the seven UK Research Councils are:

- Arts and Humanities Research Council (AHRC)
- Biotechnology and Biological Sciences Research Council (BBSRC)
- Economic and Social Research Council (ESRC)
- Engineering and Physical Sciences Research Council (EPSRC)
- Medical Research Council (MRC)
- Natural Environment Research Council (NERC)
- Science and Technology Facilities Council (STFC)

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