

Multidisciplinary Synthetic Biology Research Centres call 2

Full proposal application deadline: 24 July 2014, 4pm

Summary

Following the first phase of the Multidisciplinary Synthetic Biology Research Centres (SBRCs) call in 2013, which established three SBRCs; this is the call for proposals to the second phase. The call has been developed by the RCUK Synthetic Biology Working Group, and BBSRC and EPSRC will support some recurrent costs alongside the capital monies received as part of the 2012 Autumn Statement. BBSRC is administering the call on behalf of the Councils.

The call will proceed straight to full applications which will be assessed by an International Panel of experts. All applicants submitting a proposal will be expected to attend an interview with the Panel as part of the assessment process. Applicants should note that there will be an enforced latest start date of Friday 14 November 2014 for successful proposals.

Background

Synthetic biology can be defined as **'the design and engineering of biologically based parts, novel devices and systems as well as the re-design of existing natural biological systems.'**

In 2012, there were a number of important developments of direct relevance to synthetic biology research in the UK including:

- the publication of 'A synthetic biology roadmap for the UK' which contained key recommendations to support and develop the UK research and industrial communities
- the establishment of the Synthetic Biology Leadership Council (bringing together stakeholders from government, funding agencies, academia and industry)
- the announcement of significant government investment in synthetic biology in the 2012 autumn statement

To implement the roadmap recommendations, deliver on the investment from government and taking heed of the advice from the Synthetic Biology Leadership Council, BBSRC and EPSRC, together with input from ESRC, MRC and the TSB, have come together to establish multidisciplinary research centres for synthetic biology, in partnership with relevant higher education institutions. This is part of a larger "Synthetic Biology for Growth Programme", which also includes provision for training cohorts of skilled researchers, enhancing the UK's DNA synthesis capability and accelerating the route to market for innovative synthetic biology research.

The first phase of the SBRC call resulted in the establishment of three SBRCs; OpenPlant at the University of Cambridge and the John Innes Centre, the Synthetic Biology Research Centre at the University of Nottingham, and the Bristol Centre for Synthetic Biology (BrisSynBio) at the University of Bristol. In addition, investments have been

made to boost the UK's capability in DNA synthesis for the purposes of underpinning synthetic biology research, and for training the next generation of researchers. **See related and external links above for more information.**

Scope

The multidisciplinary SBRCs will possess the vision, breadth of intellectual leadership and research resources required to integrate disciplines including bioscience, engineering, chemistry and information and communication technology into programmes of synthetic biology research of the highest international quality. They will also integrate the research activities of experimental scientists with those working on ethical, legal, societal and other issues within the context of responsible innovation.

The UK roadmap recognised that SBRCs are necessary to build on the UK's strong research foundations in order to create bioengineered solutions to underpin the UK bioeconomy.

The SBRCs must focus on strategic areas relevant to one or more key industrial sectors that could include: fine and speciality chemicals; life science technologies; energy; environment; sensors (including diagnostics); agriculture and food; medicines and healthcare. Once established the SBRCs, working with the Research Councils, will form a coordinated programme of investment providing 'one-stop' access to resources and expertise, enhancing developmental opportunities for academia and industry alike.

Aims and purpose

The UK synthetic biology roadmap recognised a need to establish SBRCs to boost the national research capacity and diversify UK expertise, stimulating innovation and facilitating interfaces with industry and other key stakeholders.

The purpose of the SBRCs is to:

- Develop and sustain a programme of internationally competitive synthetic biology research focused on strategic areas relevant to one or more industry sectors.
- Provide a strong collaborative culture and supportive physical environment to attract excellent scientists and engineers in the collective endeavour of multidisciplinary research relevant to synthetic biology.
- Drive advancement in modern research techniques to underpin synthetic biology.
- Lead the development of new technologies and methodologies.
- Provide the essential equipment and facilities required to enable adoption and uptake of synthetic biology approaches and, where appropriate, make this available to the wider community.
- Recognising the specific purpose and position of the SBRCs, and avoiding overlaps with other funded initiatives, contribute to an overall synthetic biology UK network that acts to integrate the full breadth of UK synthetic biology and offers outreach and exchange opportunities for academia and industry alike.
- Enhance the output of trained postdoctoral researchers and specialised technical staff.

To achieve the above, the SBRCs will require:

- A clear vision and strategy for undertaking world-class synthetic biology research.
- Strong and empowered leadership and direction.
- Robust project management.

- Meaningful engagement with industry and understanding of sector needs.
- Long-term support and commitment from the host institution(s) to space, research facilities and staff.
- A concentration of relevant research facilities to enable the cutting edge research.
- The necessary multidisciplinary blend of the best researchers.
- The capability and motivation to develop and advance new technologies and methodologies and meet the needs of the broader research community.
- A commitment to outreach, wider researcher engagement, and training.
- Flexibility in the deployment of funds.
- Adherence to current appropriate international standards and contribute to the further development of these.

Each centre will need to demonstrate an awareness of other relevant activities, initiatives and groupings in the synthetic biology landscape, including those already supported through the Synthetic Biology for Growth programme, as outlined above. They must consider how best to integrate with the other stakeholders in terms of sharing of information and resources, building on complementarities and exploiting synergies, whilst avoiding duplication of effort.

Industry involvement

Although BBSRC and EPSRC do not stipulate a specific degree of participation, applicants are encouraged to consider industrial engagement. Examples of industrial engagement on a project could include but are not limited to; cash contributions, materials, access to equipment or facilities and staff participation in research or on a project management committee / scientific advisory board.

Where an application includes industry collaborators, applicants should ensure that they fully address the contribution of the industry collaborator to the project, how the collaboration will be managed and how that collaboration will increase the likely impacts of the project. For further information please see the FAQs.

Ethical, Legal and Social Aspects (ELSA)

It is expected that all proposals will show consideration of ELSA and whilst this should not form the main focus of a Centre, it is expected that the lead PI for any ELSA activities will be incorporated into the governance and management structures of the Centre. ESRC have had input to the shaping of this call, although they are not contributing financially at present, as such, BBSRC/EPSC will fund the social sciences aspects of a successful proposal, as long as it is fully justified. However, applicants should consider the balance within their proposed Centre - the social science aspect of a proposal could be a specific activity or a more general component - but the overall balance of the Centre must fit within BBSRC and / or EPSRC's remit.

All applicants are expected to answer 'yes' to the question on ethical issues arising from the proposed research when completing the JeS proforma and must provide an overview of how they will be addressed. It may be appropriate to refer to further details in the Case for Support.

Finances and duration

The SBRCs will be for up to five years. A significant proportion of the funds available are specifically for capital items (anticipated up to £10M split between up to three centres) and it is expected that significant capital investment will be a key component of successful Centres.

The final amount of resource funding awarded by BBSRC and EPSRC will be dependent on significant resource commitment from host institution(s). The indicative budget is up to £10M in recurrent funding from BBSRC dependent on the biological content of the successful proposals, and up to £10M in recurrent funding from EPSRC dependent on the engineering content of the successful proposals.

MRC and NERC will consider contributing resource funding on a case by case basis. Applicants intending to include significant human health elements (MRC) or significant elements relevant to the strategic interests of NERC must contact MRC no later than 4pm, Friday, 6 June or NERC by 4pm, Monday, 30 June 2014 (see contact details below). However, applicants should consider the balance within their proposed Centre - the overall balance of the Centre must fit within BBSRC and / or EPSRC's remit. The final decision on remit and co-funding will be made by the relevant research councils based on the final, submitted version of the application.

In accordance with the Wakeham guidelines, up to 100% of the capital cost of equipment may be sought where the equipment is an enhancement to national capability and operated on a basis that maximises its utilisation and accessibility. Value for money, in terms of the benefit from investment, will be a factor in assessment. Consequently whilst contributions from the host institution(s) and/or other external sources are not mandatory, they are strongly encouraged. Please see the FAQs for more information on Institutional contributions.

Additionally, the Wakeham guidelines state that the use of equipment should be maximised and sharing should be encouraged (www.rcuk.ac.uk/Publications/policy/Efficiency2011). As such the arrangements for managing access to the equipment and the prioritisation of its use should be described. Award holders will be expected to put arrangements in place for providing advice and support to others wishing to assess the potential of the technology for their own research. Collaboration and the extension of access to the instrumentation to industry and public sector users that would enhance the potential impact of research is encouraged, and any arrangements for this should be fully explained in the application.

Eligibility

The 14SBRC call is open to institutions and researchers normally eligible to apply to BBSRC managed-mode calls; this includes BBSRC approved HEIs, Research Council Institutes and Independent Research Organisations (IROs)

- Categories of eligible organisations can be found in section 3 of the BBSRC Grants Guide (www.bbsrc.ac.uk/funding/apply/grants-guide.aspx)
- A list of IROs can be found in the RCUK eligibility guidance (<http://www.rcuk.ac.uk/funding/eligibilityforrcs>)

In preparing your application you should ensure that all of the applicants are eligible to apply for BBSRC funding. If you have any queries about eligibility, please contact BBSRC by emailing SynBioRC@bbsrc.ac.uk with 'eligibility' in the subject heading.

Applications that include principal or co-investigators who are not eligible to apply for funding, and/or are from ineligible organisations, will be rejected.

13SBRC resubmissions

Unsuccessful applicants to the 13SBRC call may re-submit to the 14SBRC call, subject to revisions being made to the proposal to take into account feedback from the assessment of the first phase. Unsuccessful applicants who wish to consider applying to the second phase, **must** contact the office before doing so, otherwise the standard BBSRC resubmission policy applies.

The standard BBSRC resubmission policy states that unsuccessful research grant applications must not be resubmitted, unless explicitly invited by the committee. For full details please consult section 4 of the [BBSRC grants guide](#).

How to apply

The full application should be submitted through the Je-S system (see external links) by **Thursday 24 July 2014, 4pm**.

When submitting your application in Je-S, you should select:

- Select Council: BBSRC
- Select Document Type: Standard Proposal
- Select Scheme: Standard
- Select Call/Type/Mode: Multidisciplinary Research Centres in Synthetic Biology Call 2

Selecting any other options will result in your application being withdrawn from consideration.

No applications will be accepted after this closing date.

The full application should be submitted through the Je-S system, in the same way as any other standard research grant application. However, **all applications** should be on a **single Je-S form** submitted by the Principal Investigator. Applications that involve investigators from different institutions that are not submitted on this single form **will be withdrawn** from the scheme.

Your application should include:

Proposal cover letter

Case for support (up to 20 sides A4) to include:

- Track record
- The scientific case based on the research objectives and proposed capital investment
- The strategic relevance of the Centre
 - to the goals of the host institution(s);
 - to the funders; and

- to industry
- Governance and management of the Centre
- Page length includes references, figures etc. You should give as much detail as possible about your proposed Centre; however you should bear in mind that a concise application will be favoured by Panel members

Diagrammatic work plan (1 side A4)

- Diagrammatic workplan representing timelines and milestones. Cannot be used to extend the case for support.

Pathways to Impact (2 sides A4)

- Must be specific to the project and contain timelines and objectives. Further information is available at www.rcuk.ac.uk/ke/impacts 

CVs (2 sides A4 each)

- Required for principal investigator, all named co-investigators and named research staff only. CVs are not required for named technicians.

Justification of resources (up to 10 sides A4)

- All resources requested (directly incurred, directly allocated and exceptions, including PI and Co-I time) must be fully justified. Items that would ordinarily be found in a department, for example non-specialist computers, should include justification both for why they are required for the Centre and why they cannot be provided from the research organisation's own resources (including funding from indirect costs from grants). Any costs which are solely and entirely related to the acquisition of a major asset can be classed as capital (see FAQs).
- The normal requirement for the host institution to provide a 50% contribution to the cost of equipment in the £10,000-£113,057 (excluding VAT) range will not be mandatory in this instance. However, where a Research Council contribution of greater than 50% is sought, this must be well justified. A significant commitment to the Centres will be expected from the host institution(s) (see FAQs).
- A business case will not be needed for equipment over the OJEU threshold of £113,057 (excluding VAT); instead clear justification for these items should be included in the justification of resources (see FAQs).
- You should give as much detail as possible in the justification of resources; however you should bear in mind that a concise application will be favoured by Panel members.

Business cases and quotes

Although the requirements for business cases and quotes have been waived for this call (see FAQs), there is a validation requirement in JeS that we are unable to remove. As such, when submitting your application you will be asked to upload these documents. In order to satisfy the validation requirement you should upload documents with either 'dummy quote' or 'dummy business case' on the first line.

Data management plan (1 side A4)

- www.bbsrc.ac.uk/organisation/policies/position/policy/data-sharing-policy.aspx

Letters of support - Must include a letter of support from the pro-vice chancellor (or equivalent) of each Institution involved in the Centre and, if applicable, from any industrial collaborators and the institution's TTO (see FAQs).

- Only directly relevant Letters of Support should be submitted. These should be on headed paper, signed and dated within the last 6 months.

Summary slide (1 PowerPoint slide, saved as a PDF)

- A slide summarising the scientific vision for the Centre. Cannot be used to extend the case for support. Must be saved as a pdf and uploaded under 'other attachments'.

Standard guidelines for research grant applications apply, as described in our grants guide and the Je-S help text (see external links).

Applications that do not meet the guidelines specified above will be withdrawn.

Assessment process

The application documents will be assessed by a specially convened Panel of international experts. In their assessment, the Panel will consider the following criteria:

- The extent to which the application addresses the scope and aims of the SBRCs
- the excellence of the scientific proposal
- the strategic importance of the Centre to BBSRC, EPSRC and the applicants' institutions
- appropriateness of the proposed pathways to impact
- the economic and social impact
- timeliness and promise
- value for money
- the training and career development potential offered by the Centre
- the long-term sustainability of the Centre

As part of the assessment, all applicants submitting a proposal will be expected to attend an interview with the Panel. Panel members will be invited to submit questions for the applicants prior to the interviews, which will be supplied to applicants where submitted. Full details of the format of the interview will be provided to applicants in due course.

Taking into consideration their assessment of the application documents, and the information given by applicants during the interview, the Panel will generate a rank-ordered list to identify the Centres that are recommended for funding.

Timeline

The full application should be submitted through the Je-S system (see external links). Proposals will be assessed by an expert Panel alongside applicant interviews in September with a view to announcing the successful Centres in October. The exact dates for interviews will be confirmed in due course.

Successful proposals will have a latest permitted start date of the 14 November 2014. No slippage to this date will be allowed. BBSRC will allow grants to be started with expenditure under any fund heading to allow for the latest permitted start date.

Post-award management

Mid-term evaluation

As a condition of an SBRC grant, during the third year, the Director and / or PI must complete a mid-term evaluation which will be used to provide feedback on the progress against the deliverables, and guidance for the final two years.

Scientific Advisory Board

The Centres must appoint a Scientific Advisory Board, to which the Director and / or lead-PI will report on an annual basis. BBSRC and EPSRC representatives must be invited to participate in the SAB meetings.

Annual Meeting

The Research Councils intend to organise an annual meeting for the successful grant holders; representatives of each Centre will be expected to attend, and funds for this purpose may be requested in the proposal.

Contact

Ceri Lyn-Adams - BBSRC Strategy and scientific enquiries, including remit enquiries

ceri.lyn-adams@bbsrc.ac.uk

Tel: +44 (0)1793 413206

Contact

Peer review and administration enquiries, including eligibility enquiries:

SynBioRC@bbsrc.ac.uk