

## MULTIDISCIPLINARY SYNTHETIC BIOLOGY RESEARCH CENTRES (SBRCs)

**Web Front Page:** <http://www.bbsrc.ac.uk/funding/opportunities/2013/synthetic-biology-research-centres.aspx>

**Full proposal deadline:** 18 July 2013, 4pm

Following the announcement of £600M capital investment for Research Councils in the autumn 2012 statement, BBSRC and EPSRC are planning to establish up to six multidisciplinary Synthetic Biology Research Centres over two years.

### **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.

### **Scope:**

The multidisciplinary Synthetic Biology Research Centres (SBRCs) will possess the vision, breadth of intellectual leadership and research resources required to integrate disciplines including bioscience, engineering, chemistry and IT into programmes of synthetic biology research of the highest international quality. We aim to deliver added value by drawing capital and resource investments together within each Centre. 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 will focus on strategic areas relevant to one or more key industrial sectors. Centres may be focused on a specific scientific question, sector, or industrial outcome, or aimed at underpinning technologies / research. BBSRC and EPSRC remit is within the TRL 1 to 3 space, although Centres may position themselves at any point along the translational

pathway to industry. It is expected that they will clearly demonstrate what the route(s) to industry would be and identify in their 'Pathways to Impact' statement which industrial partners would be most relevant to engage with. Applicants should consider the impact, translation and applications of their research from the outset.

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 SBRC's 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 endeavor of multidisciplinary research relevant to synthetic biology
- 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
- drive advancement in modern research techniques to underpin synthetic biology
- lead the development of new technologies and methodologies
- recognising the specific purpose and position of the SBRC's relative to 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
- the necessary multidisciplinary blend of the best researchers, including contingencies for succession planning
- 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 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. These include, but are not limited to, the

forthcoming Innovation and Knowledge Centre (IKC) in Synthetic Biology, established research groups in academia and industry, the synthetic biology networks, the Synthetic Biology Leadership Council, the TSB Special Interest Group and others. 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.

## **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 for the first call) and it is expected that significant capital investment will be a key component of successful Centres. These funds will be awarded at the start of the project and the intention is that the capital investment would be complete by 31<sup>st</sup> March 2014. However, in exceptional circumstances, there may be some flexibility to this deadline. Applicants should discuss this requirement with their relevant procurement and finance officers prior to submission, particularly bearing in mind the EU requirements for competitive tender. There will also be up to an additional £2M of recurrent funding available to each centre, each year, for five years, subject to the availability of funds and peer review of the resources.

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 (<http://www.rcuk.ac.uk/Publications/policy/Pages/Efficiency2011.aspx>). 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 SBRC 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 (<http://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/research/Pages/Eligibilityforrcs.aspx>)

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](mailto: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.

### How to apply

The full application should be submitted through the Je-S system. Please note that **you must submit your full application** by 4pm on the closing date on **18 July 2013**.

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

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

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:

Attachment	Maximum page length	Notes
Proposal Cover Letter	None	
Case for Support	up to 20 sides A4	<p>The Case for Support should include information on:</p> <ul style="list-style-type: none"> <li>• Track record</li> <li>• The scientific case based on the research objectives and proposed capital investment</li> <li>• The strategic relevance of the Centre <ul style="list-style-type: none"> <li>○ to the goals of the host</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>○ institution(s);</li> <li>○ to the funders; and</li> <li>○ to industry</li> <li>● Governance and management of the Centre</li> </ul> <p>Page length includes references, figures etc.</p> <p>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 reviewers and Panel members alike.</p>
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 <a href="http://www.rcuk.ac.uk/kei/impacts/Pages/home.aspx">http://www.rcuk.ac.uk/kei/impacts/Pages/home.aspx</a>
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	<p>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).</p> <p>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).</p> <p>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</p>

		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 reviewers and Panel members alike.
Data Management Plan	1 side A4	<a href="http://www.bbsrc.ac.uk/publications/policy/data-sharing-policy.aspx">http://www.bbsrc.ac.uk/publications/policy/data-sharing-policy.aspx</a>
Letters of support – <b>MUST</b> 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).	None	Only directly relevant Letters of Support should be submitted. These should be on headed paper, signed and dated within the last 6 months.

Standard guidelines for research grant applications apply, as described in our grants guide and the Je-S help text (<http://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/CaseforSupportandAttachments/BBSRCSpecificRequirements.htm>).

Typefaces Arial, Helvetica or Verdana and a strict minimum font size of 11 must be used for the entire Case for Support, Justification of Resources and CVs (excluding text on diagrams and the use of mathematical symbols). A minimum of single line spacing and standard character spacing must be used. Margins must not be less than 2cm. References should appear in a list at the end of the case for support and be linked to relevant text by, for example, sequential numbering and superscript reference numbers embedded in the body of the document. Only one publication should be listed for each number. Within the list of references, URL links to relevant publications or online resources are permissible.

Please note that BBSRC has recently implemented some changes to the way it collects animal and ethical information within grant applications. You are no longer required to submit a Part 1C or further justification of animal costs as attachments – with immediate effect this information is now collected within the 'Animal Species' section on the Je-S form.

Applications will be checked for faults by BBSRC Administrative staff soon after the closing date to ensure that relevant aspects of the application are legible and comply with the formatting rules. Any component(s) of an application which do not meet these rules will be returned for amendment before being validated for peer review. A late response in amending returned elements of the application will result in the application being withdrawn.

### Assessment process

Your application will be assessed by external peer-review and a specially convened Panel. The Panel will assess the proposals using the scope (see above) and aims (see above), taking into account the reviewers' comments and the applicants' response.

The Panel will also consider:

- 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 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

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. Please note that **you must submit your full application by 4pm** on the closing date on **18 July 2013**. Proposals will be subject to full external peer-review and will be assessed by an expert Panel in November with a view to announcing the successful Centres by the end of 2013. Capital funds will be awarded at the start of the project and the intention is that the capital investment would be complete by 31<sup>st</sup> March 2014. However, in exceptional circumstances, there may be some flexibility to this deadline. Applicants should discuss this requirement with their relevant procurement and finance officers prior to submission, particularly bearing in mind the EU requirements for competitive tender.

### 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 (see FAQs).

#### External contacts

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