

EVALUATION OF BBSRC'S ENGINEERING AND BIOLOGICAL SYSTEMS COMMITTEE RESPONSIVE MODE PORTFOLIO 2008

BBSRC RESPONSE TO THE PANEL'S REPORT

This document sets out BBSRC's response to the findings of the review panel convened to provide an independent scientific evaluation of the research supported in responsive mode through BBSRC's Engineering and Biological Systems Committee (EBS) since the Committee's inception in 1994.

BBSRC thanks the Panel members for their hard work and commitment to this exercise. We are pleased to note the Panel's views that the research outputs and overall quality of research funded through the EBS Committee over the past ten years were good, with some highly innovative and successful research in important multi- and inter- disciplinary areas. The remainder of this document sets out our response to the Panel's key conclusions.

KEY CONCLUSIONS

Research quality

- EBS has supported some highly innovative and successful research in important multi- and inter- disciplinary areas. The quality of the portfolio as a whole was good and improved over time. Some of the research funded was high-risk, hypothesis-driven, and funding for this type of research must be continued.
- While continuing to ensure value for money from grants, EBS should not unnecessarily cut the amount awarded: evidence from the evaluation indicates that reduced awards underperform.
- To build on the outputs achieved, and to maintain its position internationally, the EBS community should be encouraged to consider how research in this area can best be translated into viable outcomes. BBSRC should play a role in facilitating this, particularly in relation to the use of new tools and technologies.

Response:

- *BBSRC welcomes the Panel's assessment of the overall quality of the research. We will continue to fund high-risk, hypothesis-driven research alongside the more strategic, applied work.*
- *We note the Panel's concerns about the adverse effects of reduced levels of funding on grant performance. When funding decisions were made the committee considered that these reductions were necessary to ensure that grants were cost-effective and that all aspects of the award were appropriate for funding. The introduction of fEC costing has helped committees in assessing the value for money of applications.*
- *BBSRC shares the Panel's view of the importance of grantholders taking forward their research results and translating them into viable outcomes - exploitation of research results is one of BBSRC's priorities and we are increasing the volume and scope of BBSRC's schemes to assist PIs to develop the commercial potential of their research. BBSRC's Tools and Resources Strategy Panel is considering ways to facilitate this further in the EBS area.*

Research outputs

- The EBS portfolio has produced a good number of research papers and trained staff as well as an impressive number of new tools and technologies. This is despite the tensions which affect published outputs, including the need to protect IPR and the reluctance of some major, multidisciplinary journals to accept engineering papers.
- Over half the sampled PIs had established new contacts in the UK and/or overseas as a result of the EBS grant. However, only a few of these led to internationally co-authored papers, and there is scope for BBSRC to encourage further contacts, particularly in regions where relevant research is emerging strongly (e.g. India and Singapore).
- While recognising the comparatively high number of trained staff resulting from EBS grants, there is still a shortage of skilled researchers to sustain research within academia and industry in this important area. Recruitment of appropriate skills, in particular good numeracy skills, remains difficult.
- The evidence suggests that some EBS grants have not contributed to the career development of the RAs working on the grants or to the flow of people between disciplines. The level of training provided varies between institutions and BBSRC should consider monitoring the information on funding options and career guidance given by HEIs.
- BBSRC's move to funding more Doctoral Training Grants, at the expense of targeted Committee studentships, appears to have disproportionately affected the availability of awards in the EBS area. More studentships should be funded in association with EBS research grants.

Response:

- *BBSRC is pleased to note the Panel's view that the EBS portfolio has produced a satisfactory level of outputs and outcomes over the period of the evaluation.*
- *BBSRC assists its grantholders to establish international research collaborations by providing funding for travel and for organising international workshops. We will continue to provide this support and will take steps to make grantholders more aware of the opportunities available for collaborations in India through the UK:India Partnering Award scheme and the RCUK India Research Office.*
- *We note the comments on the shortage of skilled staff in the EBS area, in particular those with numeracy skills, and are working in several ways to address this. We run mathematics summer schools for life sciences researchers and aim to attract more mathematicians and physicists into the life sciences by funding interdisciplinary Masters programmes and discipline-hopping awards jointly with MRC and EPSRC. We also encourage university departments to include modules on mathematics within the four-year Doctoral Training Grants, and specified mathematical skills as a core bioscience skill area in the 2007 Quota DTG competition.*
- *BBSRC recognises the issues affecting the career development of its funded researchers and is taking steps to improve the situation, for example, through the development of a Human Resources Strategy which sets out the responsibilities of our grantholders to the staff funded on their grants. We are working with the other research councils through Research Councils UK (RCUK) to fund the new 'Vitae'*

career development programme for early-career researchers (replacing UKGrad) and have contributed to the development of the recently updated Concordat to Support the Career Development of Researchers¹. In addition, we offer fellowships to assist researchers in their progression from postdoctoral research to permanent academic posts, and support newly appointed Principal Investigators through the New Investigator scheme.

- *BBSRC notes the Panel's concern about the apparent lack of studentships in the EBS area, and has asked its Studentships and Fellowships Strategy Panel (to be renamed the Bioscience Skills and Careers (BSC) strategy panel from December 2008) to investigate this further.*

Balance and coverage of the portfolio

- Given the wide remit of EBS, and the quality of the research outputs, it is surprising that this area receives a lower proportion of BBSRC's responsive mode funding than other committee areas. As a result, the coverage lacks depth.
- EBS operates at several crucial research interfaces. The interface with other BBSRC committees needs to be monitored continuously to prevent gaps from developing as research initiatives move into mainstream funding.
- The most prominent interface is that with EPSRC's LSI and, while these linkages are clearly strong, there is uncertainty within the community about which Council to approach for funding. Roadshows should be arranged to address this. It is important that the research councils work together to ensure that no barriers exist which might hamper genuinely interdisciplinary research.
- A shift towards more translational research could be facilitated by increased dialogue in relation to the EBS area between BBSRC and MRC and by helping PIs to understand better the routes they can follow to obtain appropriate funding.

Response:

- *We note the Panel's comments on the lack of depth in the EBS responsive mode portfolio and accept that this is likely to be due to its broad interdisciplinary remit. However, the level of funding for all committees is determined in the light of the level of demand: the success rate for each committee is the same. It is possible that the large number of initiatives relevant to the EBS remit has affected the number of applications received via responsive mode.*
- *BBSRC monitors the interface between its committees and with other research councils closely; the current committee restructuring exercise will ensure that there are no major overlaps or gaps between BBSRC committees. In relation to the transition from initiative to responsive mode funding, we aim to ensure that relevant research expertise built up through initiatives continues to be supported. This is monitored through the evaluations of research initiatives.*
- *BBSRC agrees that the interface between EBS and EPSRC would benefit from further clarification and will work with EPSRC to ensure that this takes place. We will take steps to make the EBS community better informed of the funding available from both research councils and will consider the use of roadshows for this, particularly in the context of informing the community of the new committee structure.*

¹ www.researchconcordat.ac.uk/documents/concordat.pdf

- *We will consider the most appropriate routes for developing further dialogue with MRC in relation to the EBS remit and how we can best improve PIs' awareness of funding opportunities for the translation of their research.*

Economic and social impact

- The EBS portfolio has given rise to some notable industrial developments, including 14 spin-out companies. The overall level of interaction with industry is reasonable, particularly given the constraints within which PIs have to work (e.g. needs of the RAE, conflicting demands on their time). However, there is clear scope to increase such interactions, by facilitating a change in culture, particularly among academic researchers.
- BBSRC has a well-run central programme of activities to support PIs' public engagement activities. However, the level and range of activities reported by EBS PIs did not always match expectations. BBSRC should reconsider the current requirement for all PIs to carry out these activities and concentrate on encouraging those who show particular aptitude for them, by providing clearer direct incentives and increasing the rewards.
- The EBS portfolio has generated some important impacts in relevant research skills and training, and in relation to research for the public good - particularly research developments in biomedicine. It will be important to build on these developments by increasing the capacity of the EBS community to carry out translational research, by facilitating the dialogue at the BBSRC/MRC interface, and by raising the community's awareness of the potential impacts of their research.

Response:

- *BBSRC is pleased with the level of interactions to date between EBS researchers and industry but will continue to encourage grantholders to build on them by providing further information on the options available. BBSRC is also working with other research councils via RCUK to influence the development of the UK Funding Councils' Research Excellence Framework so that successful economic and social impact from university research can be fully rewarded.*
- *BBSRC acknowledges that some researchers are keener than others to engage and communicate their science to the public, and that they differ in their natural aptitude for doing so. However, we consider that publicly supported scientists have a responsibility to engage with wider society. We continue to require all our grantholders to contribute in some way, although we are not prescriptive about how this is done. Some research topics may be intrinsically difficult to present, but a grantholder's activity does not need to be restricted solely to the precise nature of the grant: they can reflect the general area and context of the research. They can seek advice and assistance from their own institutions and BBSRC for this: we provide help and guidance through funding schemes, web-based resources, and communications and media training, and also contribute to several cross-Council schemes coordinated through RCUK to which our grantholders can apply. We are encouraged by the high percentage of researchers who do carry out these activities, and consider that many find the experience pleasurable and indeed useful.*
- *We are pleased to note the high overall impact of the research funded through EBS and will assist researchers to build on this by providing support as appropriate.*