

# **Evaluation of BBSRC's Animal Sciences Committee Responsive Mode Portfolio**

**February 2006**

*This document represents the conclusions of a Review Panel of experts in animal sciences. The views expressed are entirely those of the members of the Panel.*

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## **EXECUTIVE SUMMARY**

This document sets out the views of a specialist Review Panel convened to provide an independent scientific evaluation of the research supported in responsive mode through BBSRC's Animal Sciences Committee (ASC) since the Committee's inception in 1994. The objectives of the evaluation were to assess the quality of the research supported, to identify major outcomes arising from the research, to consider whether the ASC is currently funding the most appropriate areas of UK bioscience, and to identify ways to build on successes and ways to address identified gaps and issues.

The evaluation covered five subject areas: Research quality and research outputs; Balance and coverage of the portfolio; Interaction with industry; Public engagement; and Ultimate (longer-term) impacts. The findings are based on the results of questionnaire surveys of a sample of current and past grantholders, current and past ASC members, and other relevant funding organisations; and on the final reports that had been submitted for the sample completed grants.

The Panel concluded that the ASC is working very well, and fulfilling its aim to support high quality basic and strategic research on animal function. The quality of the research supported was very high throughout the evaluation period, and an excellent example of the UK's high performance and high profile in bioscience research. The Panel emphasised the importance of retaining the Committee's support across the whole animal kingdom, especially as many European funders are reducing their support for basic animal research.

A high proportion of the research supported was of international quality, with a good level of outputs including publications, novel products and processes, new collaborations and public engagement. The coverage of the portfolio was and is generally appropriate, having evolved to encompass new 'hot topics'.

The Panel made a number of recommendations relating to maintaining and enhancing the quality of the ASC's support for animal science research in the UK. A major recommendation is that BBSRC reconsider its position on the resubmission of grant applications. The Panel considers that BBSRC's policy of discouraging resubmissions is wasteful of good ideas, especially in areas such as animal sciences where there are few or no other sources of funding, and that it significantly increases the burden on the community, in terms of needing to write and referee new applications. The Panel considers that being more open to resubmissions would help to manage this burden, improve the quality of funded applications, encourage more interdisciplinary research, and reduce the wastage of scientific ideas.

# 1. KEY POINTS AND RECOMMENDATIONS

## Key points

The Panel drew the following conclusions:

### *Research quality and research outputs*

- The Animal Sciences Committee is working well, and is fulfilling its aim to support basic and structural research on animal function. The quality of the research supported was very high throughout the evaluation period, and an excellent example of the UK's high performance and high profile in bioscience research. It is vital that the Committee's support both for the whole animal kingdom and for basic research is maintained, especially as many European funders are reducing their support for basic animal research.
- The importance of ASC's continued support for animal sciences research is also illustrated by the narrow range of other bodies reported by sampled PIs as having provided follow-on funding for the research.
- A high proportion of the research supported over the last 10 years was of international quality, with a number of particularly striking highlights and, as might be expected, a small proportion of under-performing grants.
- The research outputs were generally good, with the majority of grants resulting in papers in well respected journals; a large number of new contacts and collaborations developed; an impressive range of novel products, processes, tools and technologies; and a higher than expected proportion of PIs reporting that the research had contributed to the reduction, refinement and replacement of animals in experiments.

### *Balance and coverage of the portfolio*

- The coverage of the portfolio was and is generally fine, and appears to have evolved to encompass new 'hot topic' areas. The only apparent gaps in current coverage are mammalian endocrinology; foetal programming and functional magnetic resonance imaging (fMRI).
- The Committee's breadth is both a major strength in terms of the support that it provides across the animal kingdom, and a weakness because some parts of the community (e.g. researchers working on companion animals) perceive that their applications have a lower success rate.
- While having an important role in promoting particular areas of research, Priority Areas should not be over-emphasised to the detriment of support for high quality research that lies outside Priority Areas.
- There is a healthy level of interdisciplinarity amongst ASC-supported research.

### *Interaction with industry*

- ASC-supported research contributes indirectly to industry through the maintenance of a 'bedrock' of knowledge on which future application is based, and the provision of a continued supply of scientists trained in animal science research methods.
- While the level of interaction with industry would never be high amongst a portfolio dominated by basic research, the survey results indicate that there is significant potential in this area, and that opportunities may be being missed.

### ***Public engagement***

- Public engagement with animal science research is vital. The level of involvement reported by ASC grantholders is very good, and there were a number of major highlights amongst the sampled grants.

### ***Ultimate impacts***

- The sample grants made a range of direct contributions to animal health and welfare and human health, with a number of notable highlights.
- ASC-supported research directly informs government policy in some areas, for example control strategies and contingency planning for certain animal diseases.
- On a longer-term scale, it is clear that ASC-supported research helps to maintain a sound base of scientific knowledge on which more applied research and future application by industry and governments is built.
- Similarly, ASC's support for animal research also contributes to the maintenance of a national skills base in animal sciences that is available to support government policy and strategy and to advise the government on emerging issues and emergencies, and that supplies industry with trained scientists.

### ***Threats to animal science research in the UK***

- The research supported through ASC has been of very high quality over the past ten years, and the outlook is generally positive. However, BBSRC's policy of discouraging the resubmission of grant applications, and the increasing cost and difficulty associated with conducting animal research in the UK are potential threats to animal science research in the UK.

## **Recommendations**

The Panel made the following recommendations:

### ***Research quality and research outputs***

- Recommendation 1: BBSRC's support for animal sciences research in the UK is vital, and should be continued.
- Recommendation 2: BBSRC's efforts to manage demand are commendable. However, the Council should take further steps to address the burden that the current success rate places on the community.
- Recommendation 3: BBSRC should continue to strive to identify ways in which it can contribute to improving job security, benefits and career prospects for research staff.

### ***Balance and coverage of the portfolio***

- Recommendation 4: The ASC's current remit and themes are appropriate and should not be significantly changed. BBSRC should review the way in which the ASC themes are presented on its website to ensure that they read consistently.
- Recommendation 5: BBSRC should investigate the Wellcome Trust's recent experience with its move to sub-Committees to inform the discussion on Committee remits.
- Recommendation 6: BBSRC should consider its current provision of support in mammalian endocrinology, foetal programming and Functional Magnetic Resonance Imaging (fMRI).
- Recommendation 7: Priority Areas have an important role in enabling the Committee to promote particular areas of science, but should not be prioritised to the detriment of support for high quality research outside Priority Areas. BBSRC should provide the community with

a clear statement on the role of Priority Areas in encouraging particular areas of science, and on the way in which they are used in grant appraisal.

- Recommendation 8: BBSRC should continue to encourage interdisciplinary research where it is appropriate, in particular investigating ways to improve the appraisal process and success rate for interdisciplinary research.

#### ***Interaction with industry***

- Recommendation 9: BBSRC should continue to think creatively about how to promote interaction and collaboration between academia and industry, including improving networking and communication of opportunities, and identifying ways to encourage industry to invest in grants.

#### ***Public engagement***

- Recommendation 10: BBSRC should continue its efforts to encourage and assist scientists to engage with the public, in particular by promoting its facilities and increasing its provision of training.

#### ***Threats to animal science research in the UK***

- Recommendation 11: BBSRC should reconsider its position on the resubmission of grant applications to help to ease the burden on the community, to increase the quality of the applications funded, and to reduce the wastage of scientific ideas.
- Recommendation 12: BBSRC should consider ways in which the concerns of grantholders relating to animal research could be presented to the Home Office and universities.
- Recommendation 13: BBSRC should consider ways in which longer term support for animal research facilities could be provided.