

Public Dialogue on Future Strategy for the Babraham Institute Executive Summary

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Executive summary

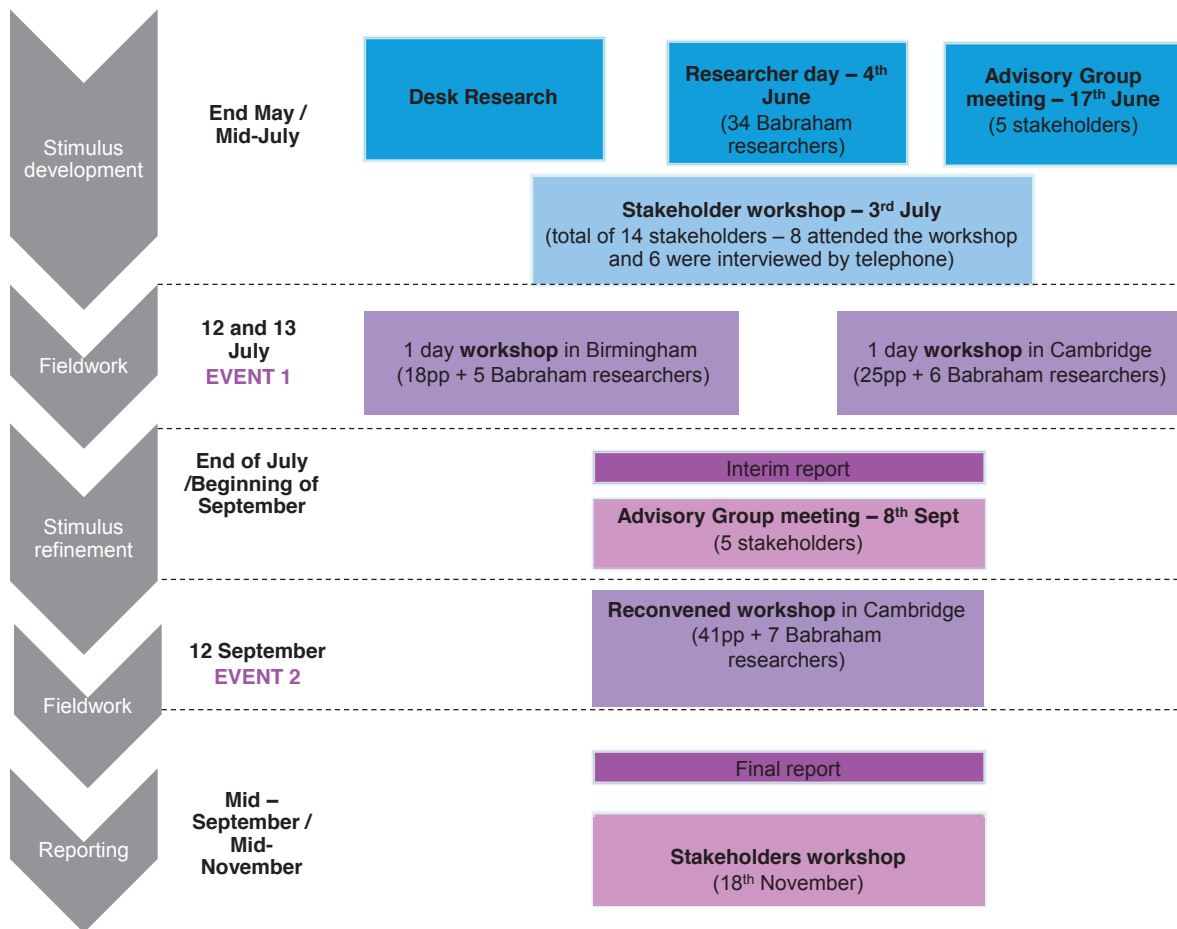
This report presents the findings from a public dialogue process commissioned by the Babraham Institute and the Biotechnology and Biological Science Research Council (BBSRC), with support from Sciencewise¹.

1. Introduction (objectives and project design)

The aim of the project was to carry out a public dialogue to feed into the Babraham Institute’s science and public engagement strategy 2017-22. Key objectives for this dialogue were:

1. To engage in dialogue with civil society and other stakeholders and a balanced recruited sample of lay public about the challenges and big questions relevant to the Babraham Institute.
2. To gain insight and understanding from the public and civil society that will inform and influence both scientific (2a) and public engagement (2b) strategies.
3. To raise awareness and highlight the importance of the Institute and its science with stakeholders.
4. To gain an understanding of how the public and stakeholders view Babraham Institute’s work.
5. To demonstrate best practice in openness/responsiveness and social responsibility.

To meet Objective 1, a dialogue was conducted including the following activities and events. This process followed Sciencewise’s guiding principles².



¹ Sciencewise is funded by the Department for Business, Innovation and Skills (BIS). Sciencewise aims to improve policy making involving science and technology across Government by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate. www.sciencewise-erc.org.uk

² <http://www.sciencewise-erc.org.uk/cms/guiding-principles/>

2. Public views

This section summarises the views of the participants in this public dialogue project. These views have been taken from observations and careful analysis of events, post-event evaluation and from analysis of a homework exercise.

2.1. Overall views of science (meeting objectives 3 and 4)

- Most participants started from a low awareness of scientific research, and especially basic research. However by the end of the dialogue, most participants wanted to protect and support the function of fundamental bioscience research.

2.2. Views on ageing (meeting objectives 1, 2 and 3)

The Institute's research sits within BBSRC's Healthy Ageing research strand. Participants were asked to discuss what ageing meant to them, as a start point for investigating their views on bioscience in this area.

- Participants described ageing as the factors which affect people in old age, rather than a process that happens through life.
- They believed that physical, mental, and social elements are interconnected and all contribute to ageing.
- Ageing well was considered to be (to some extent) under individual control, based on making good health choices through life.
- Ageing has some positive side effects (like wisdom and appreciation of your body) – so they saw downsides as well as benefits to science which seeks to combat the ageing process.

2.3. Views on the challenges for science (meeting objectives 2a and 5)

- Diseases and illnesses were seen as unfair, unnatural, and a challenge to be beaten by science. Participants preferred the terminology of beating diseases rather than healthy ageing, though they did like the idea of beating age-related diseases, particularly familiar threats like cancer and Alzheimer's.
- The emergent concept of epigenetics was seen as a key frontier for science. This was the idea which most interested participants and sparked imagination across the whole dialogue.

2.4. Implications for Babraham's science strategy (meeting objective 2a and 5)

- Participants wanted Babraham to work to combat inequalities in health outcomes because they felt that illnesses and diseases are inherently unfair in their effects. They wanted this even though they understood that fundamental science is not the same as medical research.
- Focusing on epigenetics was seen as a priority by participants.
- Babraham could consider ageing research in its social context (i.e. not simply as a biological process).

2.5. Implications for Babraham's public engagement strategy (meeting objective 2b)

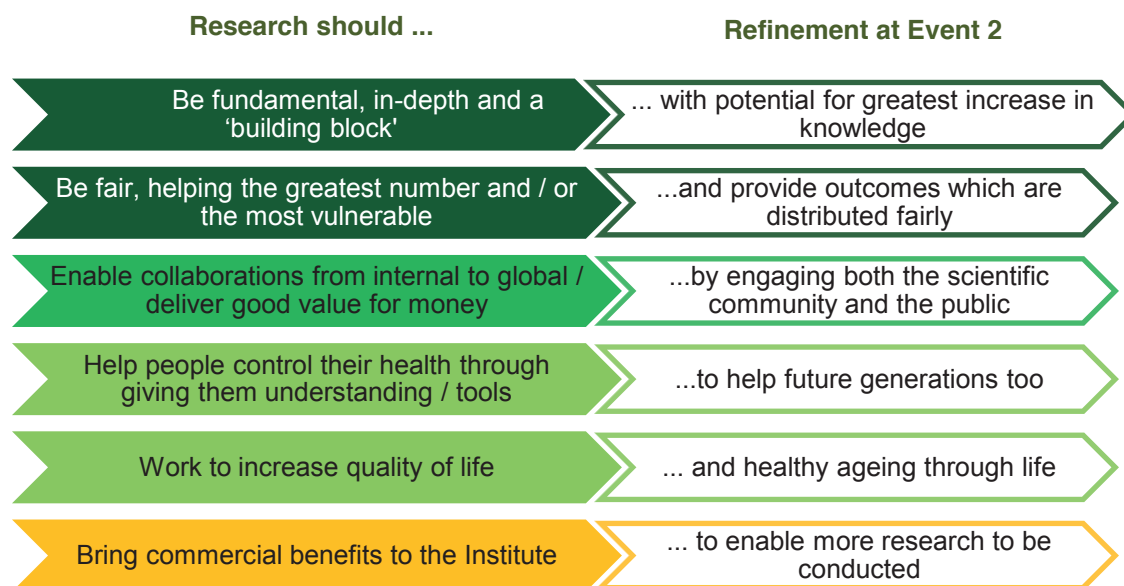
- The following ways of introducing ageing research to the public are most likely to interest them and help them understand the concepts.
 - Consulting the public about delaying illness and increasing resilience, not reversing or stopping ageing.
 - Consulting the public about ageing of people, not of cells; even when the project is at a very early stage or at a molecular scale.
 - Consulting the public about equipping people with the information they need to make good choices and increase their own wellbeing.

3. Views on strategy: public principles for science and governance

3.1. Scientific principles

Participants identified six **scientific principles** which they felt should inform the science strategy at the Babraham Institute. These were first shaped and identified at Event 1 and were nuanced and enhanced after further discussion at Event 2.

3.2. The diagram below summarises them. Green indicates strength of feeling. The final principle (in orange) tended to polarise views and was supported by some and contested by others.



3.3. Principles for governance

Participants identified two key ideas:

- They wanted Babraham to support projects which are in the public interest and which are most likely to deliver on the priorities identified above, when applying for grants.
- If the Institute is committed to accountability, it needs to enable scrutiny to make this commitment credible. This could involve taking account of a number of different voices (academic, media, lay, external experts) to bring a wider discussion of the interests of different stakeholders into strategy-setting.

4. Response to case studies in detail

4.1. Reactions to case studies

Participants' knowledge of bioscientific concepts was too limited for them to give strategic perspectives about the work of the Institute on the level of the **Institute Strategic Programmes** (ISPs; Epigenetics, Signalling, Immunology and Nuclear Dynamics).

Participants were shown eight case studies, two from each Institute Strategic Programmes (ISP).

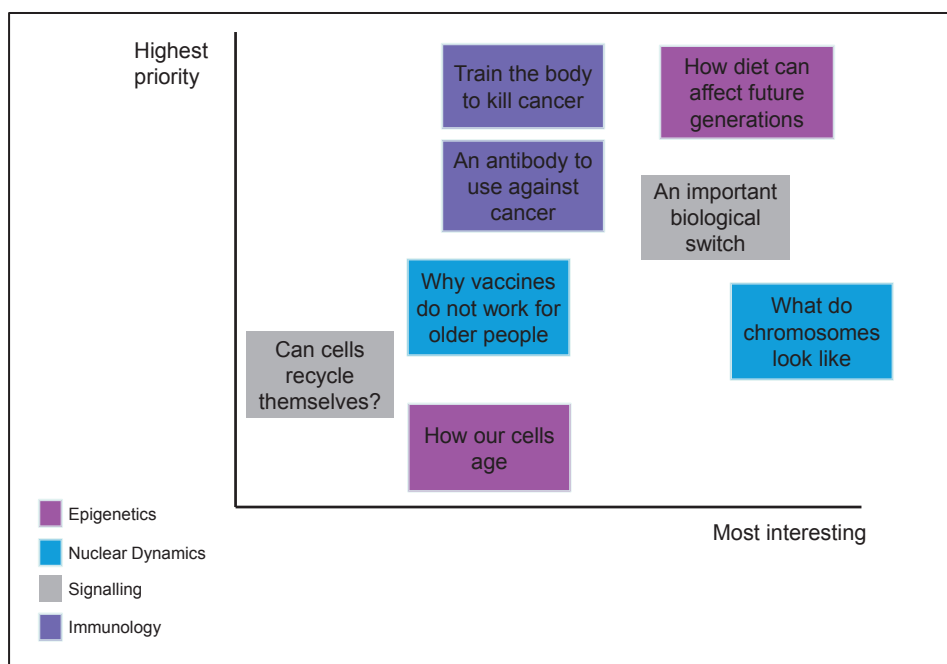
Participants used these detailed examples to draw out the principles they felt were important. At the analysis stage, two dimensions emerged as important and we have plotted them in the chart overleaf. The case studies were essentially seen in terms of the **highest priority** and the **most interesting** types of work.

- **Highest priority types of work:** Case studies on **how diet can affect future generations** and **how to train the body to kill cancer** were seen as high priority. The Institute's work on **an antibody to use against cancer (Vectibix)**³ was also seen as high priority for those who felt that an important aim would be to increase revenue through marketing intellectual property. The case study on **an important biological switch (PI3Kinase)**⁴ was also relatively high priority because it was seen as a fundamental, 'building block' study.

³ Vectibix is a drug used to treat colorectal cancer. It is created using specially bred mice, licensed by Babraham Institute, to create 'humanised' monoclonal antibodies, which are not rejected by the human immune system

⁴ The PI3K (PI3 Kinase) family is a family of eight proteins which have been found to be very important in fundamental cell processes such as growth, proliferation, division and survival/death. There are multiple PI3Ks, but each acts as a 'switch', starting the same fundamental chain of events (a cell signalling pathway) which ends in protein transcription

- **Most interesting:** Participants often focused on the practical detail of the project, rather than the conceptual science. Hence, the projects they found easiest to understand were often seen as most interesting. This illustrates the need to communicate clearly to allow the science itself to be understood. **How diet can affect future generations** included a human-level story which made it interesting. **What do chromosomes look like** appealed because of the visual aspects of the case study.



5. Openness and transparency around animal research

5.1. Animal research and the commitment to openness

Babraham has committed to openness and transparency in its animal research. The dialogue explored how participants thought these principles of openness and transparency could best be applied to the work done at the Institute (mostly with mice). This helped meet the objectives of raising awareness (objective 3) and demonstrating best practice in openness (objective 5), as well as gaining insight for strategy (objective 2).

5.2. Public views

- Most understood why Babraham was making a commitment to openness and transparency. They felt that this would help address any negative feedback proactively.
- Overall, participants felt animal research was necessary to advance science and was acceptable when carried out ethically and when well regulated.
- The main driver of trust was that participants believed the scientists who were there on the day; they personally assured participants that they cared about the animals, considered ethical issues, and adhered to the '3Rs'.⁵
- In order to be reassured, some requested more information about:
 - The level of suffering experienced.
 - Why mice are good models for human biology.
 - The numbers of mice really needed.
 - Why animals have to be killed at the end of a project.
 - What is involved in breeding transgenic mice.

⁵ <http://www.understandinganimalresearch.org.uk/files/1214/1041/0135/appendicies-to-openn.pdf>

The 3Rs are: **replace** the use of animals with alternative techniques, or avoid the use of animals altogether; **refine** the way experiments are carried out and the way animals are housed and cared for throughout the animal's experience, to make sure that suffering is minimised and animal welfare is improved; **reduce** the number of animals used to the minimum necessary, so that the scientific question can be answered robustly, but using fewer animals or more information obtained from the same number of animals.

5.3. Implications for Babraham are largely around communication, within the public engagement strategy (objective 2b); effective communication of animal research would involve answering the reassurance questions above.

6. Public engagement

6.1. What is public engagement?

Public engagement can be divided into **communication**, **consultation** and **participation**. This dialogue illustrates how the Babraham Institute could best carry out engagement in all three areas.

6.2. Communication

Levels of knowledge about bioscience and the Institute's work were very low. Key areas to communicate to the public are:

- Who scientists are and what they do all day.
- The scientific approach and process.
- Sharing cutting-edge science as it happens.

Dialogue participants asked for fun, informal communications approaches. Babraham needs to be aware of the challenge in getting the public involved in questions of bioscience and giving them enough information, while at the same time communicating in a simple and interesting way.

6.3. Consultation

Researchers and participants had reservations about how far the public could meaningfully be consulted on very detailed issues of science. Nevertheless participants felt they should be able to feed back their views to scientists, in the context of a two-way conversation where both sides could question the other and reveal their perspectives. Relevant subjects would be: ethical debates; or the implications of research findings.

For best results, the problems would be couched in terms of human effects rather than in the language of molecular bioscience. Appropriate channels were felt to be Q&As, interactive exhibitions and online forums.

6.4. Participation

Participants saw some opportunities for a deeper 'collaboration' with the Babraham Institute. They felt the public could be engaged with some specific areas of work and might become informed enough to join strategic discussions, for example on ethics, epigenetics, and disease-driven vs fundamental research directions; and that these were subjects where lay opinions would be valuable and should drive strategy.

They felt it was incumbent on a publicly-funded Institute to allow the taxpayer some say in decisions on how funds are spent. The public felt it was important for the credibility of public engagement that scientists should be as involved in these engagements as possible.

7. Considerations for the future

The report concludes with some questions and reflections for future consideration by the Babraham Institute management team.

- How could future engagement be shaped, in the light of knowledge from this dialogue about the lay public's views of ageing, low levels of knowledge of bioscience, and interest in personal and human-level narratives?
- The findings suggest that there are some clear public priorities for science strategy. How can the Institute take account of these in its decision making?
- The findings of this dialogue suggest it would be of interest to the public if the Institute committed to 'public collaboration' as well as 'engagement'. How could public 'collaboration' be achieved within the Institute?
- How can awareness-raising and two-way engagement be continued, and what resource-effective ways are there to do it?
- The value of the dialogue is ultimately in its impact on internal practice. Which mechanisms within the Institute can link public and stakeholder views back to research and engagement strategy?

For more information

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