

Communicating with the public

1. Introduction	1
2. General points	2
3. Dealing with controversial and sensitive issues	3
4. Working with the media	4
Publicity at BBSRC	
Media releases	
5. Public exhibitions	6
6. Schools liaison	9
7. Resources available from BBSRC	11
Publications	
Schools' resources	
Exhibitions	
8. BBSRC public affairs staff	12

1 Introduction

BBSRC, along with the other research councils, has a responsibility to promote public awareness, appreciation and understanding of biotechnology and biological sciences. We aim to enhance public access to the processes of science, to the results of research and to the scientists themselves, with a view to improving public confidence and stimulating open public debate about science and technology. As a BBSRC grantholder you are required to make a minimum commitment of 1-2 days per year to promote public understanding of science.

Whether you are presenting your research to pupils at a local primary school, passers-by in a shopping centre or your local MP, the experience can be gratifying, and we hope you will take advantage of the possibilities that it offers. Scientists participating in such activities have not only found them rewarding, but also used them as a way of enhancing their profile within their department and institution to support their research.

We have put these notes together to give you a better idea about:

- the range of activities you might become involved in
- the support that we can provide you with from BBSRC
- practical advice that we hope will ensure a successful event for both you and your audience

BBSRC and public understanding of science (PUS)

Increasingly, our PUS activities are about mutuality, by helping scientists to appreciate better the concerns, views and aspirations of different 'publics', as well as improving the public's understanding of science. BBSRC's PUS programme has three main objectives:

- To encourage and equip BBSRC-supported scientists to promote PUS by increasing your awareness of the issues and improving your skills in communicating effectively with the public.
- To promote public awareness of biotechnology and its relevance to everyday life; providing information; stimulating public debate about the nature of science, and associated social, ethical and commercial issues.
- To support science education in schools to contribute to a science-literate community in the future, and to encourage students to pursue science-based careers in higher education, research and industry.

BBSRC Public Affairs Branch supports you in fulfilling these objectives by providing advice and guidance and organising:

- **Training** for BBSRC-funded scientists, e.g. media training, Communicating with the public Workshops (www.bbsrc.ac.uk/opennet/pa/scien/)
- **Publications, kits and exhibitions** for you to use in activities with the general public and schools (see section 7)
- **Publicity** for results of research funded by BBSRC (see section 4)
- **School-scientist liaison schemes**, e.g. Researchers in Residence, BBSRC Local Co-ordinators (see section 6)

- **Award schemes** for PUS activities from BBSRC and other organisations, e.g. National Science Week and PUS resource awards (www.bbsrc.ac.uk/opennet/pa/scien/)
- **Sponsorship** of other organisations' schemes, e.g. British Association Media Fellowships (www.britassoc.org.uk) and ScienceLine (www.sciencenet.org.uk).

BBSRC also works directly with the public by:

- **Organising public exhibitions**, produced in collaboration with BBSRC-funded scientists for display at, for example, the Royal Show, British Association Annual Festival, National Science Week events and the Edinburgh International Science Festival
- **Setting up links with public groups**, e.g. National Federation of Women's Institutes, Women's Food and Farming Union
- **Working with other science-based organisations** e.g. Royal Botanic Garden Edinburgh, The Natural History Museum, other Research Councils
- **Sponsoring other organisations**, e.g. British Association for the Advancement of Science
- **Producing discussion documents, schools' literature, publications and exhibition resources** for use by other organisations at open days, public meetings and science days

Feedback from visitors to PUS events suggests that the opportunity to meet and talk with practising scientists is one of the aspects they most value about their experience. We appreciate that the success of many events depends on you giving up time and expertise and we hope very much that you will help us by participating in BBSRC projects or setting up your own events wherever possible.

For further information about BBSRC Public Affairs staff, resources and publications, see sections 7 and 8.

2 General points

2.1 When planning an event on science for the general public, it may be helpful to consider some of the criteria used to judge PUS award schemes. These include:

- targeting to appropriate audiences or 'public'
- presenting clear objectives (including 'added value' in terms of presenting audience with something beyond their usual experiences)
- awareness of activities likely to interest the audience (rather than applicant's pet subject)
- indication of non-propagandist approach (information provision rather than persuasion)
- evidence of ideas on generating publicity
- sensitivity towards potential areas of public concern e.g. animal experimentation
- practical feasibility and awareness of likely time involved to undertake activity
- realistic project costs
- evidence of ideas on evaluation

First things to think of:

2.2 Find out who your public is – there may be more than one. Are they:

- From the local community, with particular local concerns/issues?
- Potential commercial/industrial customers who will develop and apply your research?
- People who will benefit specifically from the research e.g. those suffering from a particular disease or consumers who will buy a new product?
- Potential funders of your research?
- People from government or other policymakers?
- Media? If so, who are their publics in terms of readership/listeners, etc?
- A mix of 'general publics', different age groups, interests, etc?

2.3 Decide/find out specifically what your public is interested in/wants to know, and base your presentation on that, not on your particular interests or what you think your audience ought to know.

Ask yourself why you, as opposed to anyone else, have been invited to speak or present your work. What is it that your public expects/wants to hear?

2.4 Bear in mind that most of your audience will view you as the expert and may want answers on a broad range of related topics. If you genuinely do not know the answer do not be afraid to say so. At the same time be prepared to talk about your work in a more general context than you might do with your peer group. Think about the surrounding issues, applications and the potential link between your work and your public's interests.

Make sure your message is 'clear'. Decide on one or two key points you want to make – do not give a rambling review that leaves your public wondering what the point is or how much more there is to come.

Do not forget...

2.5 In general, your audience will not want to know precise chronological details and how and why your research took a particular course. Unless you have developed a new technique they will probably not be particularly interested in the details of

how you obtained your results. It might, however, be useful to include something about the overall time scale of the research. This could provide a better appreciation of the processes of science, and counteract the common view that scientific discoveries are made overnight.

2.6 Many members of the public do not often get the chance to meet scientists. They will be interested in you as a person. So share your hopes, concerns, excitements and disappointments about your research. Make yours a human story as well as a scientific one.

Needless to say, public presentations should be purged of jargon, acronyms and any other 'technospeak'. If you are not sure, try out your proposed words on a family member or friend who is not a scientist, and ask them if they understand what you are saying.

2.7 Public meetings, exhibitions and media interviews require a different content and order than oral and written formal scientific presentations.

	Scientific presentation	Public presentation
Content and order	Background/hypothesis Materials/method Results Discussion/conclusion	Real-world context and relevance of your research Conclusion/significance/ potential applications Background/methodology
Interest	New information Technical developments	'What's in it for me?' 'Does this change our view of the world?'
Style	Impersonal, formal, passive	Personal, informal, active

There is anecdotal evidence that the approach for public presentations can also be successfully applied to less formal / specialised scientific meetings and workshops.

And finally...

2.8 Make your position, motivation and affiliation very clear. Public audiences are increasingly concerned about 'independence' and how this might affect reliability/credibility of scientific research. It may be worth pointing out why it is more appropriate for some work to be funded by industry rather than the public purse. It may also be that your organisation has a requirement to generate a percentage of its income from the private sector. Discussion about this may lead to better appreciation about the nature of funding for research in the UK.

2.9 Most people are happy to have science 'explained' to them in a friendly way, but they have no wish to be 'lectured at'.

In face to face meetings, listen to what people say to you. Do not automatically dismiss their points if you think they are wrong. Just because people do not know the technical details of a piece of science does not mean that they are wrong to be concerned about potential misuse of the science, or other connected social and ethical issues. Try to meet critics 'half-way' in order to develop a productive discussion rather than fuelling an outright argument. Many people still believe that scientists are aloof, arrogant, out of touch and insensitive. Try not to reinforce this illusion.

3 Dealing with controversial and sensitive issues

3.1 Sensitive and controversial issues are often difficult to discuss with the media or in direct dialogue with the public. They may include political sensitivities and/or impinge on an individual's personal values. Concern about having to address these in a public arena may be a disincentive to taking part in public activities, but many of the worst situations can be avoided by being prepared.

3.2 There is no simple magic formula to being able to respond to people's concerns. However, four elements may help:

- **Homing-in on the precise nature of the sensitivity:** recognise that there may be several 'layers' of this and that you need to tease out which issue you are dealing with.
- **Identifying, in advance, potential allies and potential adversaries,** and remembering that there are other collateral issues, individuals and organisations that may be sucked into the debate.
- **Thinking about your 'audience', and the wider context.**
- **Do not hide any affiliation or vested interest.** People are not stupid: they recognise conflicts of interest, but they want these dealt with openly and honestly.

Below, we offer some thoughts that you might wish to consider to meet your specific situation and requirements.

The nature of the sensitivity

3.3 BBSRC asks all new grantholders to confirm that they have considered a range of potentially sensitive issues and whether or not these could apply to their research. At the same time these grantholders are required to consider whether their research could give rise to public misunderstanding, for example, about its objectives. The kind of checklist shown below can help to reveal sensitivities that may not be immediately apparent to the grantholder.

- Try to think how other people, who are not familiar with you and your research, might unintentionally or mischievously misinterpret what you do and your motives for doing it. Ask a friend or family member to help you explore these areas for potential concern or misunderstanding.
- Most of us are not wholly consistent: do not expect other people to be. Some people may oppose abortion because they uphold 'the sanctity of human life' yet they may support capital punishment. Meat-eaters may oppose hunting, and may cite in their defence the relative value of food and sport, but does it matter to the animal?
- Try to identify the precise nature of the sensitivity of the issue you are discussing. You may wish to focus solely on that or widen the debate, depending on the issue.
- It is unlikely that anything you can say or do will influence people's ideologies or their political views. On the other hand, it may be relatively straightforward to deal with misunderstood information. It is important to be aware of people's views and respect their right to hold them.

Identify your potential 'allies' now

Potential 'allies' might include academic and learned societies, trade organisations or individual companies, charities including patients' groups, Government departments/ publications.

Check the source of material carefully. Make sure it is up to date. Try to avoid a slanging match about statistics.

'Allies' may divide into:

3.4 Individuals and organisations with experience of handling a particular issue with the media.

These may provide frequently asked questions, advice sheets, and/or training courses on dealing with an issue. Colleagues and your PR section/press office may be able to direct you to such organisations. Do not forget to be selective and be yourself. Beware of becoming an apologist for a particular company or lobbying group's viewpoint.

3.5 Individuals and organisations who can provide you with valuable back-up data and case studies.

All points sound more convincing if you can quote figures and actual cases (without breaching any confidentiality). For example, "over 85% of the animals used in experimental procedures are rodents, i.e. rats and mice" is more convincing than "rats and mice are generally used in those experiments that involve animals".

Thinking about your audience

3.6 Try to anticipate what sort of questions you may be asked, and the particular 'pitch' that potential co-interviewees might take. For example, you might look at the website or media releases of campaigning and lobby groups.

Use the questions of an interview to make the points you want to make (most politicians are good at doing this).

3.7 Do not underestimate the level of expertise that people may have. And most importantly remember that you do not have to have a high level of formal education or knowledge to hold perfectly valid and well thought-out opinions. Do not patronise. For example, remember that anyone who has a family member suffering from an inherited illness is likely to know much more, not only about the condition, but also about related ethical and social issues of genetic screening, testing, etc, than you do.

3.8 Even in direct debate on contentious topics, your target audience is probably not those who have already formulated their opinions and may hold extreme, almost fundamentalist views, but rather the 'middle ground' of the general public, who may well be interested or concerned about the topic, and who want to hear the arguments.

'Negative advertising' or attacking the views of others, rather than stating your own can be counterproductive. So can refusing to comment or discuss issues.

4 Working with the media

4.1 Presenting your research in the media is a very efficient way of reaching a large audience - far bigger than you could ever hope to target through a public talk. There has been a lot of discussion about misrepresentation of science in the media, e.g. inaccurate reporting, information taken out of context. Many of these problems could be reduced if there was an improved mutual understanding of the objectives, constraints, agendas and timescales that scientists and journalists work to. BBSRC organises media training courses and communication workshops for the scientists we fund to address this. Contact public.affairs@bbsrc.ac.uk for further information, or see www.bbsrc.ac.uk/opennet/pa/scien/

Publicity at BBSRC

BBSRC Public Affairs interacts with journalists in a number of ways that could help you publicise your work. Please note we aim to complement (rather than compete with) any press support that your organisation might offer. Our work includes:

4.2 Publishing *bbsrc business* to:

- Update readers on science funded by BBSRC, and highlight achievements in other areas such as technology interaction, research training and the promotion of public understanding of science.

bbsrc business is published quarterly and distributed widely to all BBSRC grant-holders, policy makers, industrialists, trade organisations, embassy officials, the media and the general public. Contact the editor, Dr Monica Winstanley (email monica.winstanley@bbsrc.ac.uk) to suggest topics for inclusion in future editions. For guidance notes on articles for *bbsrc business*, see www.bbsrc.ac.uk/opennet/pa/scien/notes.html

4.3 Writing press releases to:

- Generate broader coverage of BBSRC-funded science stories covered in *bbsrc business*
- Publicise new appointments, funding decisions and changes in institute management
- Clarify BBSRC's position in public/policy debates concerning relevant areas of science (e.g. genetic modification)
- Attract audiences/publicise the science of BBSRC public events; these may be organised by BBSRC (e.g. BBSRC event at the Royal Show) or funded by BBSRC (e.g. SET week award events)
- Publicise the publication of BBSRC-funded work. This is very rare; we would normally encourage scientists to use their institution's own press office. More often, we act in an advisory role on subjects of potential misrepresentation/sensationalist reporting.

4.4 Sending press releases to:

- Journalists on BBSRC database
- AlphaGalileo (www.alphagalileo.org), the on-line science press release service
- Council members, Strategy Board, group directors, institute directors and liaison officers, trade union reps within BBSRC
- Whitehall

4.5 Organising press conferences to publicise:

- Specific public events (e.g. BBSRC conference at British Association Annual Festival)
- BBSRC's role within the context of a public debate, e.g. GM, where we brought together 6 leading plant biotechnologists to present their views to the (mainly) scientific media.

4.6 Liaising with other organisations on press releases about BBSRC-funded work

- All BBSRC institute press offices are required to send us advance copies of their press releases, which we forward to OST if they contain potentially sensitive issues.
- We have a new requirement for university press offices to send us advance copies of any press release describing BBSRC-funded work.

4.7 *Ad hoc* press telephone enquiries

These may concern:

- Science under BBSRC's remit
- BBSRC science policy
- BBSRC events for the general public

Media releases

One way of encouraging journalists to write about or broadcast your work is by issuing a media release.

4.8 General principles

A media release is about news. There has to be a reason why you are contacting the media at this time, with this particular information. So decide what your news is. Think how you might increase its interest value to the media, e.g. by hooking it on to topical issues already in the media, to anniversaries of famous people or events, or to local issues.

Science stories can be particularly interesting when they are surprising or counter-intuitive; or when they challenge existing ideas or involve unusual international or industrial collaborations.

In general it is the relevance of science to everyday life that makes it newsworthy: always set your news in context, for example, it may be that you are publishing a paper or speaking at a conference.

4.9 Think what type of information different types of media require. Local press and broadcast media, for example, are likely to be interested in local people and their new research grants, and in new laboratories/facilities/international meetings, open days etc. These are items that would not normally make the national media.

Do not issue media releases that are just hype or self-publicity: they will not be used.

Discuss your ideas for a media release with your organisation's press office (or with BBSRC Public Affairs Branch). They will help with drafting the content, as well as the practicalities of layout and distribution. You should also check your release with other collaborators, industrial contacts, funders etc. who should be kept informed, and who may be contacted by the media.

Make sure that your release does not unintentionally represent gratuitous criticism of others. For example, if your work is on improving animal welfare, it may be construed as implicit criticism of existing practices.

Structure of a media release

4.10 Remember to include a **date** or **embargo** (see 4.15)

Provide a factual **title** that summarises the main point(s) of your story. Do not waste time trying to write a witty headline: if your story is used a sub-editor will write the headline.

Begin with your findings/conclusions. The order of presenting information in a press release is the reverse of that in a scientific paper. The first couple of sentences must contain the whole story in a nutshell. Journalists receive a huge number of press releases every day, so very little time is spent reading each one. If the first paragraph is not clear or does not explain exactly why the release is being written, it will go straight into the bin.

4.11 Use short active sentences to cover 5 key elements:

What you have done/are doing

Why it is important

Who is involved (use first names, Professor John Smith, not Professor J C P Smith)

When it is happening/happened

Where the work is being done

Use simple words, not grand or formal ones. Avoid jargon and acronyms. Try describing your work orally to a non-scientific friend, and then use this sort of English in your release. It can be a good idea to include some quotes that may be used in reporting your story. Make sure that they are in realistic spoken English.

If your release is being used, but is too long for the space available, editors will tend to cut it from the bottom upwards, so make sure that all your key messages are at the top.

4.12 A media release should ideally be just one A4 sheet and certainly no more than two. Stick to the news aspects, and add any technical details or background in a 'Notes for Editors' section at the end of the release. You may want to attach pictures if you have some good ones. Newspapers are always desperate for good quality photos with popular appeal. Sometimes a story will be chosen on the merits of the picture that accompanies it.

4.13 End with details (work and home phone number) of how the media can contact you, a website address for further information, and indicate your availability for interviews, photographs etc. And be available immediately! A media release is an invitation to the media to contact you: it is rude, unprofessional and counter-productive to play hard to get. The media release is the beginning of the process of communicating with the media, not the end.

Timing and targeting your release

4.14 Your press office (and/or BBSRC Public Affairs Branch) can advise on optimal timing of your release, and target media. You may, for example, wish to target local media, or more specialist publications such as the Times Higher and New Scientist. You may wish to put your release on the AlphaGalileo Internet service (www.alphagalileo.org). Your research may be better suited to one medium than another. For example, if sound is involved you may want to target radio/TV journalists.

4.15 You need to consider the copy dates of weekly publications and the daily schedules of the print and broadcast media. You may want to use an **embargo**. This is a device by which you provide your release in advance with conditions that it may not be used before a specified time and date. Towards the end of the week journalists are often looking for stories for Monday editions of programmes and papers. Providing them beforehand with something embargoed for Monday may increase the chances of your release being used. Conversely, try not to send out your press release so that it coincides with the Budget or something similar. Other news events, such as a death in the Royal Family, may be harder to predict.

4.16 If you have a paper being published, remember that some journals, such as Nature and Science, issue their own embargoed media releases that may include your work. However, some publications e.g. Nature may refuse to publish a paper if you have already publicised that particular piece of work. Make sure you keep to a publication's rules and guidelines about when you can seek publicity.

Preparing for media enquiries

4.17 Even if your media release attracts and interests journalists, it is unlikely to be used on its own. Reporters will want to talk to you about your work. They will want more details, and they may also want to set the story in a broader context. This is your chance to make the story as interesting as possible and to stress its significance and relevance. Be prepared to supply reporters with extra information, have some facts and figures to hand. For example, if you work on the molecular genetics of a food poisoning bacterium, you would be expected to know something about the incidence of illness and its symptoms.

4.18 As a general rule, it can be helpful to act as a Devil's Advocate and think of two or three difficult questions in advance that you would not like to have to answer. Questions about the need for the research, sensitivities about commercial funding or animal experimentation, value for public money, conflicts of interest and 'independence' may well arise, and it is a good idea to work out your responses in advance.

And finally...

4.19 Do not be too disappointed if your story does not make it into print. There can be many reasons why a story is not carried. It may be that the subject has already been covered in the previous week/month, or more simply that another bigger news story has broken that day.

Do not give up. We sometimes get enquiries about stories published in *bbsrc business* several months after they were released.

5 Public exhibitions

5.1 Whether your exhibition is at the Royal Society's New Frontiers in Science Exhibition or a local community centre, it should be planned and produced in a completely different way to a scientific poster session. You might like to take advantage of opportunities provided by Open Days and/or National Science Week to organise an event.

5.2 Where can you hold an event?

- Universities and institutes
- Museums, botanical gardens and science centres
- Agricultural and county shows
- Public places e.g. town halls, schools, hospitals, libraries, railway stations, shopping centres
- Science Festivals (National, e.g. Edinburgh International Science Festival, Local e.g. Wrexham Science Festival, local venues during National Science Week, BA Annual Festival)
- Events or conferences convened by other organisations e.g. Women's Institute, National Council of Women of Great Britain, Rotary Club, Local Authority events
- Other locations e.g. Houses of Parliament, Royal Society, Motor Show, Earl's Court, Tomorrow's World Live

Venue

5.3 If you are exhibiting at a large public venue, e.g. at a Conference Centre or at Earl's Court, or at a county or agricultural show, you will probably receive an exhibitor's handbook that will guide you through the procedures for booking and setting up a stand. Such venues have strict deadlines for the different stages of preparation (site reservation, provision of electrical power supply, entry into exhibition catalogue) as well as strict rules about stand erection and dismantling. Read the instructions carefully. Stand rental at major events can be costly. Check what is included in your package: floor coverings, backing panels or walls for posters, power points, etc.

5.4 If you can choose the site for your stand, choose somewhere that visitors can find easily and that is not on a busy 'passageway' between two major attractions. If possible locate your stand close to a major feature that is likely to attract lots of visitors.

5.5 If you are setting up the stand at your university or research institute think about accessibility (including for disabled people) and sign-posting. Consider whether the venue might be intimidating for some people. A laboratory or lecture theatre may be for some. A social area may be better for displays, with separate 'tours' to the laboratory.

Practicalities

5.6 You need to consider and take account of:

- transport of equipment and access to the site before, during and after the event.
- how much space you need (it may be more than you initially think, as your visitors will need space to move around)
- power, water supply and lighting requirements
- a name board for your stand, so that people know who you are
- tables so that visitors can see exhibits at the most convenient height

- storage for your personal belongings
- storage for spare equipment, publications, samples, etc.
- public liability insurance
- health and safety issues (knowing the location of fire exits, first aid sites, etc.)
- containment regulations if you intend taking plants/micro-organisms out of the laboratory
- staffing requirements: talking to visitors all day can be tiring. Try to arrange a rota of exhibitors where possible

Stand layout

5.7 Ensure that your stand is as open and welcoming as possible. Remember a small square exhibition space may look good on a plan, but entering it might be a bit like entering a cave. Try to have a wide frontage to the stand so that visitors can see what it is about before they enter, and so that they do not feel trapped.

5.8 The idea is to engage people's interest before they have to commit themselves to stepping into your territory. Large attractive images that are visible some distance from your stand will entice people to come and find out more.

5.9 Visitors tend to start from the left as they enter an exhibition area and move to the right, but do not assume that all visitors will approach your stand from the same direction. Design your stand to make sense regardless of where people arrive.

Posters

5.10 Do not assume that everyone will read all the posters. Ensure that each poster makes sense if read in isolation.

5.11 See section 2 regarding the text - but keep it short. The style should be short factual sentences, not long descriptive passages. Use big photographs and other images. Avoid graphs and technical diagrams which, like additional text, can be supplied on accompanying handouts if really necessary. Think of advertisement hoardings - the most effective are the ones with the striking images and few words.

5.12 Remember that posters are only part of the exhibition. They are the background wallpaper: YOU and the hands-on exhibits (interactives) provide the detail and bring the display to life. Plan the stand accordingly and keep the number of components small. Leave enough room for the visitors!

Interactives

5.13 The display material / interactive element of an exhibit about your research is a crucial tool in attracting people's attention and providing an opening for conversation. It is also a useful tool for targeting different age groups and levels of interest (e.g. a DNA puzzle can keep children occupied while you talk with their parents).

5.14 There are several ways of catching the visitor's eye:

- **Presenting something familiar in an unusual situation** e.g. a display of different types of pasta in kitchen storage jars, to accompany work on DNA sequencing of durum wheat. Visitors will feel comfortable seeing something they know about on display, and will almost certainly want to know more about what it is doing in a science exhibition.

- **Presenting something unfamiliar**
Do not underestimate the power of even a microscope in attracting visitors. We have found that people are more interested in looking down the microscope than looking at a display projected onto a screen. Think about simple practical exercises that may seem mundane to you, but which people like trying out e.g. micropipetting.
- **Asking a question**
Pose questions about collections of photographs or objects. “Which has the most DNA?” “Can you spot the odd one out?”

Timing

5.15 Bear in mind that the average dwell time for visitors at any one exhibit may not be much more than 2-3 minutes. Of course, some visitors will almost certainly stay longer than this, but your display should include something that people can get to grips with in a relatively short time. For example, if you plan to run an experiment, do not expect visitors to wait for 20 minutes to see the final results. Consider having different experiments at different stages if necessary.

If you use a computer programme or video, display a sign saying how long it will last for so people know how much time they will need to see the whole thing.

Living organisms

5.16 Plants and animals make popular displays that often encourage visitors to come and find out more, e.g. a display of tropical butterflies to accompany research on modelling iridescent structures to improve reflective materials. Make arrangements in advance to ensure that any required temperature regulation, light levels etc are going to be feasible. Be aware that plant material can look tired after several days on an exhibition stand. You may want to make arrangements for replacing it if the event runs for a long time.

If you are considering displaying animals, take welfare issues into account, as well as any veterinary certification and the possibility of not being able to return animals to a research station after an exhibit, especially for larger mammals. Be prepared to answer questions about what will happen to exhibits at the end of an event.

Remember to consider containment regulations for microbes, GMOs etc in advance.

Labelling

5.17 Brief, simple label text to explain to visitors what they are looking at, and inviting them to interact with it (if relevant), can be useful if you are going to be inundated with visitors and will not have time to talk to everyone.

Health and safety

5.18 Think about issues such as equipment stability, durability, use of hazardous chemicals, access to exhibits (especially for smaller children). If you are expecting a large number of younger visitors, make sure equipment is robust enough to withstand extensive use.

Computers

5.19 Do not be tempted to base your entire exhibit on a

PowerPoint presentation unless absolutely necessary. It is very easy for exhibitions to end up looking like a display about computers if everyone brings one. Our experience indicates that visitors prefer to interact with the ‘real thing’ if at all possible. (Using computers as an extra source of more detailed information for visitors who are particularly interested is a possible approach, although a more detailed handout that visitors can take away with them is often more useful.) If you are going to use computers, be aware that laptops, in particular, provide an extra security risk.

Borrowing equipment

5.20 If you are borrowing equipment from colleagues, be aware that it will need to be robust enough to withstand extensive handling from people not necessarily used to dealing with scientific equipment.

Remember

5.21 Try to keep exhibits as simple as possible. What may seem mundane to you may well be of interest to someone with no professional experience in the area. If something risks going wrong, it almost certainly will, usually shortly before a VIP is due to visit...

Handouts

5.22 Visitors may not ‘take in’ the entire display during their visit, and often appreciate being able to take away with them something to read at their own leisure. Reproducing the poster text as a leaflet for visitors to take away can be a simple and effective way of doing this.

Handouts can also be used to provide more detailed / technical information that would be inappropriate to display on panels.

Anything else that the visitor can take away from the stand, such as a sample tube with DNA inside, or a chromatography strip, can reinforce the message of your display.

Your role

5.23 Your body language and manner will influence whether or not visitors want to stop at your display. Do not look like an over-keen sales assistant ready to pounce on any passing visitor. Equally, do not look indifferent, sit reading a paper, or hide behind the exhibits.

Stand (sitting can look too casual), be relaxed, and make eye contact with people as they approach the stand. If you have a demonstration that can be switched on as people approach or a microscope that you can adjust for them, do so. This will be appreciated as a welcome.

5.24 Do not wait for visitors to ask you a question. But do not start by asking them something knowledge-based such as “Do you know much about DNA?” - the question will intimidate some, insult others and confuse many. Instead try something like, “have you come across this sort of thing before?” or “are you worried about...” or “have you ever wondered why...?” On the other hand if people seem happy browsing through the exhibit do not interrupt them, just be alert if they seem to be looking for you to intervene, or to ask you a question.

5.25 Sometimes it is difficult to fathom what is behind a question. This can often be the case with an opening question. For example, “why are you here?” may mean any of the

Section 5

following: “What is the purpose of your organisation presenting an exhibit at this event?” or “Why are you at this location, as opposed to another?” or “Why are you personally on this exhibit?”. It is a good idea to answer what you think is the real question and then to start a dialogue, for example, by asking them to comment on your reply, or some aspect of the exhibit.

5.26 Our experience of public exhibitions dealing with contentious issues such as genetic modification is that some people take the opportunity to air their views forcefully. You may find yourself being asked to comment upon or defend the views of Government, industry etc. You may also find that people expect you to know all sorts of facts and figures that you do not know. If you are in this position, keep polite at all times and remember that the aim is not to win an argument, or convert people, or ‘educate’ them. If you do not know the answer to a specific question just say so, rather than hazard a guess. Always volunteer to take the person’s name and contact details so that you can make sure that the information is sent to them later.

5.27 Most exhibitions do not have a dress code, but some events can be fairly formal. Always wear a badge so that people can see who you are, where you work, and that you are associated with the display.

Stand maintenance

5.28 Do not leave your stand unattended and do not eat or drink on it, unless you are at a very informal event. Never leave used cups or glasses on the stand. If a piece of equipment fails, remove it or at least put a notice on it. Make sure you top up supplies of handouts, especially for displays lasting more than one day. Be prepared to dust and clean surfaces: exhibition halls can be very dusty.

Publicity

5.29 How will people know about your stand? You might wish to invite local media to a preview, or to the stand itself; or advertise through local newspapers; or distribute fliers to local venues. Think about your target public. Check with the event organisers or your press office to see what publicity they can provide.

Re-cycling

5.30 Considering the time, effort and money put into your display, it makes sense to think of how it (or parts of it) may be re-used elsewhere. Might it be suitable for temporary exhibition at a local museum, library, shopping centre, bus/railway station or school? Could it reappear at a Science Week event or British Association Festival? Might colleagues working on a similar subject be able to make use of it? BBSRC Public Affairs Branch would be interested to discuss ideas with you.

6 Schools liaison

School and college students are a key group for the long-term improvement in the public understanding of science. Liaison with students, their teachers and their parents is also an effective way of promoting a positive image of scientific research, of encouraging students to pursue science-based careers, and of creating goodwill in the local community.

Why should I forge links with schools?

6.2 Because it can be a rewarding experience, allowing you to reach out and influence the scientists of tomorrow. It gives you the opportunity to explain your work and ensure that the public better understands your research (and scientific research in general).

6.3 Specific benefits to you and your department can include:

- An opportunity to demonstrate your contribution to BBSRC's remit of supporting the public understanding of science
- Promotion of your research and research organisation to the local community
- New perspectives, e.g. in methods of communicating science and on potential areas of public concern.

6.4 The benefits to the school can include:

- An opportunity to see how scientific research is conducted and to gain insights into the dynamic aspects of research
- Access to examples of science and technology in action beyond that usually encountered in the school or college
- Access to positive scientist role models
- Access to helpful advice from scientists when reviewing or compiling course material
- Access to unwanted equipment.

What can I do?

What do the schools and colleges want?

6.5 One of the best ways to find out is to make contact with your local school or college and ask them. Some ideas follow, and you will also find examples, help and advice in the BBSRC publication *Making that Link - a Guide to School Liaison* available free of charge from the BBSRC Schools' Service.

6.6 Offer visits to your research site and/or practical demonstrations of scientific research methods that could not be carried out in a school due to equipment or safety constraints. Many students, for instance, will never have seen an electron microscope in action, or have visited a controlled environment area.

6.7 Try to offer experiences that students would not usually come across through the normal course of events at school.

6.8 Offer talks, either at the school or the college or on site. Schools may appreciate a talk on an aspect of science and technology relevant to the curriculum or a career orientated discussion. Try to make your talk as interactive as you can. If possible, take along some 3D material that can be passed amongst the students or displayed around the room. Encourage students to participate by asking them frequent questions to find out about their experiences or opinions.

6.9 Consider offering a student work placement. It is common for schools to arrange 5-10 day work placements for Year 10 (14-15 year olds) in June and July, and many schools and colleges also seek placements for post-16 students. Teachers are also encouraged to undertake personal development through Teacher Placement Schemes and In-service Training (INSET).

6.10 Consider becoming a BBSRC local school co-ordinator. Local co-ordinators are asked to encourage colleagues to foster links with local schools. An initial support grant of £2K is offered. For further details contact the Schools' Liaison Officer, or www.bbsrc.ac.uk/opennet/pa/scien/

6.11 If you are a BBSRC-supported PhD student, consider becoming a Researcher in Residence (Biosciences). This gives students the opportunity to visit and work with students at a secondary school of their choice for a period of four days. Funding and training are available. Further details at www.bbsrc.ac.uk/opennet/pa/schools/rir.html

6.12 Consider organising an activity for National Science Week (3rd week in March) or for a local Festival or relevant event. BBSRC offers awards of up to £2,000 for new initiatives or re-runs of successful activities (see www.bbsrc.ac.uk/opennet/pa/scien/).

6.13 Once a link has been established with a school, students often benefit from teaming up with a 'mentor' - an adult outside the school who is willing to give advice and encouragement on a one-to-one basis. Mentoring need not be a time consuming task: short periods of support sustained over the year can be very effective, helping the student to grow in confidence and enhancing their record of achievement.

6.14 Consider donating surplus equipment to a school or colleague, or offering technical advice/assistance. Note: always check with your on-site Health and Safety representative that the resources offered are safe and appropriate for school use.

6.15 If you enjoy your schools liaison experience - spread the word. Encourage a colleague to become involved or act as an initial source of advice for other departments embarking on a school or college link.

Helpful hints

6.16 If you are interested in making links with schools, consider contacting the following:

- The **Head of Science** at your local secondary school or sixth form college. Post-16 colleges attract students from a wide catchment area and should have many contacts with their feeder secondary schools
- The **Science Co-ordinator** at your local primary school. Every primary school should have a member of staff who manages the delivery of the science element of the curriculum

6.17 When you are planning your visit, lecture or literature, try to find out as much as possible about the 'target audience' from the teaching staff involved: "What does the teacher require for the students?" "What age are the students and what is their current area of study?" Remember that even within one class you will encounter a range of abilities. A preliminary meeting or a phone call to the teacher involved is always a good idea.

Section 6

6.18 Literature should be succinct and easy to photocopy, with the main points extracted from the text and highlighted for quick reference. Again try to involve a teacher or the Schools' Liaison Officer. They will be able to advise on links to the curriculum; at what level to pitch the text and so on. Task-related worksheets with questions or short exercises for the students to compare are effective ways to encourage the students to retain information.

6.19 If possible, enlist the help of the younger members of your team. School pupils may relate more readily to young researchers and technicians than to senior researchers; they are able to picture themselves 'in the researchers' shoes', and may feel more comfortable about raising questions.

6.20 Most teachers and students will be as apprehensive as you are about their first visit/contact with you/your research department. They will not expect you to initiate large-scale projects or conduct grand tours. They will however genuinely appreciate the opportunity to interact with scientists engaged in research.

Other sources of help

Many organisations exist to facilitate links with schools and colleges.

6.21 SETNET - Science, Engineering, Technology, Mathematics Network stimulates collaboration between schools and industry, channelling information about the many different schemes currently in operation. Contact SETNET on 020 7636 7705 or www.setnet.org.uk

6.22 SATRO - Science and Technology Regional Organisation. A network of SATROs across the UK provide teaching resources and act as local focal points for information and support for both schools and industry. For further details, including information on all of SATRO's regional offices, contact the BBSRC Schools' Liaison Officer.

6.23 BA - The British Association for the Advancement of Science is primarily concerned with advancing the public understanding of science, engineering and technology. It has regional branches throughout the UK and holds an annual Festival at a different University each September to promote and celebrate science. The BA has a youth section, BAYS, a national network of science clubs for 8 - 18 year olds. Contact: The Education Manager, BA, 23 Savile Row London W1X 2NB. Tel: 020 7973 3500 or www.britassoc.org.uk

6.24 ASE - Association for Science Education. The professional association for science teachers with a network of regional co-ordinators. Contact: The General Secretary, ASE, College Lane, Hatfield, Herts AL10 9AA. Tel: 01707 283000 or www.ase.org.uk/

6.25 LEA - Local Education Authority. Information and advice is available through primary and secondary school advisors and regional science advisors. Contact: your local county council offices and ask for the Education Department. The Council may also be able to link you with other local groups tasked to link industry and research with education. These include Business in the Curriculum groups (BITCs) and Education Business Partnerships (EBPs).

6.26 CLEAPSS - Consortium of Local Education Authorities for the Provision of Science Services. Advice on practical science technology in primary and secondary schools. Produce

publications and organise training courses. Contact: science@cleapss.org.uk or www.cleapss.org.uk

6.27 NCBE - National Centre for Biotechnology Education. Promotes education in biotechnology and microbiology through the provision of independent, up-to-date information, training and resources. Produce a range of equipment, materials and ideas to aid the teaching of biotechnology including classroom-friendly gel electrophoresis kits.

Tel: 0118 987 3743 or www.ncbe.reading.ac.uk

Recognition for your activities

6.28 You may already undertake some schools work. If so, we would like to hear about it and help to ensure that your efforts are recognised. We may also be able to offer support for scaling up your ideas to disseminate your resource more widely.

See www.bbsrc.ac.uk/opennet/pa/schools for further information on relevant awards, resources for schools and the BBSRC Science Club, or contact Tracey Reader, School's Liaison Officer on 01793 413302, email tracey.reader@bbsrc.ac.uk

7 Resources available from BBSRC

7.1 All resources are available from BBSRC free of charge and can be ordered from public.affairs@bbsrc.ac.uk.

7.2 Publications for the general public

- **Ethics, morality and crop biotechnology and Ethics, morality and animal biotechnology** Two booklets for the general public about the concerns and practicalities of crop and animal biotechnology.
- **GM agriculture in the UK?** A discussion pamphlet about potential benefits and risks of genetic modification (GM), and how risks are being addressed.
- **inGENEious.** A leaflet derived from BBSRC's interactive travelling exhibition on the science and issues of GM.
- **The Medicine Makers.** A booklet that examines why we need new medicines and where we might find them.
- **New Age Conservation.** A booklet to illustrate how molecular biology and bioinformatics are changing classification and what this means for bioprospecting.
- **The Use of Animals in Biological Research.** A discussion leaflet to promote constructive public debate.

7.3 Resources for Schools and the BBSRC Science Club

The BBSRC Schools Liaison Service produces a range of material for primary, secondary and post-16 students in support of science education. Schools, and scientists involved in education links, may join the free BBSRC Science Club. Members can order free, curriculum-relevant resources including posters, booklets and kits.

7.4 Exhibitions

We have a number of exhibitions and interactives that are available for loan to BBSRC grantholders, either in part, or as a whole exhibition. If you are organising an event it is worth contacting us to see what panels we have available on a particular subject, but at the moment we can supply:

- **The Medicine Makers.** Panels and interactives on why we need new medicines, and where we might find them, using plants, micro-organisms, transgenic animals and CAMD as examples.
- **New Age Conservation.** Panels and interactives about how molecular biology and bioinformatics are changing classification and what this means for bioprospecting.
- **inGENEious.** A museum-style travelling interactive exhibition about the issues and science of genetic modification.
- **Genetically modified crops and the countryside.** A more technical set of panels about ongoing research into the stability of transgenes and their potential side effects on non-target species.
- **The Science of Ageing.** A series of panels illustrating how research is helping to improve the quality of life as we get older. Includes a timeline of comparative lifespans in plants and animals, and a series of cartoon panels on how different animals age.

7.5 Interactives

- **What do you think?** An animated interactive questionnaire that runs on Mac OS. It questions people's

views about genetic modification and its applications. It provides immediate feedback on how an individual's response compares with other responses given on the same day.

- **DNA puzzle.** Developed by the National Centre for Biotechnology Education, this provides a practical illustration of the specificity of DNA bases, and how they fit onto the sugar-phosphate backbone.
- **Interactive model flowers.** These 4ft high models have 'touch and tell' areas to describe what each part of the plant does (for 8-12 year olds).
- **DNA climbing frame.** This 10 ft high metal frame illustrates the structure of DNA (for 8-12 year olds).
- **The Classification Challenge.** A 'glove box' containing cutlery to introduce children to the concept of sorting objects into groups according to their characteristics.

7.6 Other BBSRC support materials

- **Making that Link.** The BBSRC Guide to School Liaison
- **Working with Young People** - BBSRC advice and safety leaflet
- BBSRC logo as a colour slide and an OHT. (to download an electronic version of the BBSRC logo, see www.bbsrc.ac.uk/opennet/pa/logo/)
- BBSRC plastic bags, signs, pencils, etc

Please acknowledge BBSRC's support of your event where possible.

8 BBSRC Public Affairs Staff

Dr Monica Winstanley
Head of Public Affairs
Tel 01793 413204
monica.winstanley@bbsrc.ac.uk

Chantelle Jay
Schools and Community Links Officer
Tel 01793 413302
chantelle.jay@bbsrc.ac.uk

Chloe Kembery
Public Affairs Administrator
Tel 01793 413253
chloe.kembery@bbsrc.ac.uk

Andrew McLaughlin
Media Officer
Tel 01793 413301
andrew.mclaughlin@bbsrc.ac.uk

Simon Wilde
Exhibitions and Events Officer
Tel 01793 413368
simon.wilde@bbsrc.ac.uk

+

BBSRC
Polaris House
North Star Avenue
Swindon SN2 1UH
email: public.affairs@bbsrc.ac.uk
www.bbsrc.ac.uk

© 2000 BBSRC Public Affairs Branch
ISBN 0 7084 0636X

Communicating with the public