

Royal Society response to the Council for Science and Technology's consultation on *A universal code for scientists*

October 2005

The Royal Society welcomes the opportunity to respond to the Council for Science and Technology (CST) on its consultation about the document *Rigour, respect and responsibility: a universal code for scientists*¹. The Society supports the broad principles and aims promoted by the CST Code. We also welcome its clarity and brevity. The response addresses the questions raised in the consultation including how the CST code could be promoted more widely.

The Society has previously commented extensively on the role of codes of conduct in preventing the misuse of scientific research (Royal Society 2002a, 2003, 2004 & 2005; RS-Wellcome Trust 2004). The current response draws on this previous work and has been produced with contributions from the Society's committees on Education, Science in Society and the Scientific Aspects of International Security. It has been approved by the Council of the Royal Society.

Key points

- The Society supports the broad principles and aims promoted by the CST Code. We also welcome its clarity and brevity.
- To be effective the Code needs supporting information and material including practical examples of how it might be used and when it applies. This development work should be given high priority if the code is to achieve its aims.
- There are many examples of existing discipline-specific codes provided by professional societies and funding bodies that cover the broad principles outlined in the CST Code. The Society suggests that these bodies re-examine their existing codes to ensure that all of the principles outlined in the CST code are addressed. Professional bodies that are developing a code for the first time might use the CST Code as a basis.
- We believe the Code has considerable value as an educational and as awareness-raising tool to ensure that scientists are reminded of their legal and ethical responsibilities and to remind them that they should consider the potential consequences of their own research. Undergraduate and postgraduate education programmes should ensure that students are capable of considering the reasonably foreseeable consequences of their activities.
- The existence and content of such a Code are timely for teachers and 14 – 19 year old students. We suggest that CST works through existing organisations and networks in order to communicate the Code.
- In supporting constructive communication the document should explicitly encourage scientists to discuss the results of their own work outside the scientific community, and address the implications of their work for society.

¹ The code and consultation can be found at <http://www.cst.gov.uk/cst/business/files/ethical-code-letter.doc>

1 Responses to questions in consultation

Do you think that the universal ethical code for scientists has the potential to fulfil the aims of: fostering ethical research; encouraging active reflection; and supporting constructive communication? Please explain briefly.

We believe that codes of conduct have considerable value as educational and as awareness-raising tools to ensure that scientists are reminded of their legal and ethical responsibilities and to remind them that they should consider the potential consequences of their own research. Undergraduate and postgraduate education programmes should ensure that students are capable of considering the reasonably foreseeable consequences of their activities, which include identification of the possible misuse of science in addition to the tangible benefits that may arise for humanity. The CST Code provides an opportunity for education and training to reinforce the ethical and practical aspects of preventing the misuse of science.

The document might encourage active reflection by providing a context in which junior staff can ‘whistle blow’ if they observe the guiding principles being broken.

To be effective the Code needs supporting information and material including practical examples of how it might be used and when it applies. Giving examples of where they might apply would help show the benefits of the principles outlined, and this is especially important if the document is going to be used in education and training. This will require substantial work that should be given high priority and resource to produce the background material. Without this the Code will struggle to make the impact that it justifies.

Moreover, in supporting constructive communication the document should explicitly encourage scientists to discuss the results of their own work outside the scientific community, and address the implications of their work for society.

Would your institution(s) consider adopting or using the universal ethical code for scientists?

- *If yes, what could this mean in practice? Which of the options that you have identified would seem most feasible and most worthwhile?*
- *If no, why not? Is your reasoning of specific relevance to your institution or one of more general principle?*

There are many examples of existing discipline-specific codes of professional societies and funding bodies, such as the British Computer Society (2005), Geological Society (2005), Institute of Physics (2005) and the Natural Environment Research Council (2005), which cover the broad principles outlined in the CST code. As the Society has previously indicated (RS 2005), there are clear benefits in producing more detailed codes of practice or conduct that concentrate on a specific area of research and target audience. The Society suggests that these bodies re-examine their existing codes to ensure that all of the principles outlined in the CST code are addressed. Professional bodies that are developing a code for the first time might use the CST Code as a basis.

The Society is constantly alert to areas where specific codes might be required. For example, RS-funded researchers working with animals have to agree to the principles outlined in the statement of the Royal Society’s position on the use of animals in research (RS 2002b). The RS position statement applies the broad principles of the CST Code to a specific area of research.

Since in many cases the work of the Fellowship of the Society and RS funded researchers will be covered by the codes of subject specific professional societies and funding bodies it would not be appropriate for the RS to adopt the CST Code. However, it recognises how useful it will be especially in educational and awareness raising contexts.

Have you, or do you plan to, take the opportunity to put the universal ethical code for scientists into use? If yes, could you describe briefly: how it was or will be used; and what impact it had or you hope it will have. How do you think others could be persuaded to take similar steps?

The Society believes the greatest value of codes of conduct is in education and awareness-raising. Given the changes to the science curriculum at Key Stage 4 and the development of GCSEs and A levels that give greater emphasis to the way science works, to controversial issues and to the ethics of science, publication of such a Code is timely for teachers and for 14 – 19 year old students. However, we would suggest that CST works through existing organisations and networks in order to communicate the Code and its messages into schools in the most constructive way. Suggestions are given in table 1 below.

Table 1: Suggested organisations and networks to communicate the Code and its messages into schools

Curriculum and resource developers for Key Stage 4 (GCSE) science, particularly those focusing on how the science community works, applied/vocational science and providers of work-related learning.	<ul style="list-style-type: none"> • Awarding bodies • QCA • Professional bodies • 21st century science project • Centre for Science Education • SEMTA
Curriculum and resource developers for A levels, particularly those encouraging wider thinking about science, and more practical research work.	<ul style="list-style-type: none"> • Perspectives on Science team • Nuffield Curriculum Centre • Wellcome Trust
Teachers (science, citizenship, general studies) who may be able to use the Code directly in class discussions.	<ul style="list-style-type: none"> • Via the Association for Science Education and/or Science Learning Centres • Direct to schools
Organisations that encourage science enrichment activities and bring students in contact with scientists and engineers who could talk about the Code.	<ul style="list-style-type: none"> • The BA • SETNET

2 Additional comments

In the bullet point relating to minimising and justifying any adverse effects of a scientist's work, the use of the word 'minimise' should be reconsidered, as in some situations individuals may be legally obliged to prevent rather than minimise any adverse effects of their work. A possible form might be '*Eliminate if possible or minimise and justify-----*'

Describing the code as 'universal' implies something with a global reach and universal significance (as in the Universal Declaration of Human Rights). Whilst making an important contribution to the debate, the code cannot claim to be 'universal' in this sense and the word should perhaps be dropped to avoid being misleading.

We appreciate that the list of examples given where scientists should act with rigour, honesty and integrity has to be limited to keep the Code brief. However, we suggest two issues that could either be included in the list or used as case studies to accompany the document: (1) ensuring all scientists have the possibility to participate, without discrimination and on an equitable basis in legitimate scientific activities; (2) ensuring scientists actively consider the ethical implications of any sponsorship they receive.

3 References

British Computer Society (2005) *BCS code of conduct*. BCS: London.
Available online at www.bcs.org/BCS/AboutBCS/codes/conduct/

Geological Society (2005) *Code of conduct*. Geological Society of London: London.
Available online at www.geolsoc.org.uk/template.cfm?name=code

Institute of Physics (2005) *Code of conduct and rules of conduct*. Institute of Physics: London
Available online at <http://about.iop.org/lop/member/conduct.html>

National Environment Research Council (2005) *Ethics policy*. NERC: Swindon.
Available online at www.nerc.ac.uk/aboutus/ethics

Royal Society (2002a) *Response to the Foreign and Commonwealth Office Green Paper on strengthening the Biological Weapons Convention*. RS policy document 25/02. Royal Society: London

Royal Society (2002b) *Statement of the Royal Society's position on the use of animals in research*. Royal Society: London

Royal Society (2003) *Submission to the House of Commons Science & Technology Select Committee inquiry into the scientific response to terrorism*. RS policy document 04/03. Royal Society: London

Royal Society (2004) *Paper for UN Foundation meeting on the individual and collective roles scientists can play in strengthening international treaties*. RS policy document 05/04. Royal Society: London

Royal Society – Wellcome Trust (2004) *Do no harm: reducing the potential for the misuse of life science research*. RS policy document 29/04. Royal Society: London

Royal Society (2005) *The roles of codes of conduct in preventing the misuse of scientific research*. RS policy document 03/05. Royal Society: London

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