

Microbiology Awareness Campaign

The Society's Microbiology Awareness Campaign (MAC) rolls inexorably on. It was set up to raise awareness of the importance of microbiology in everyday life and the roles of microbiologists to parliamentarians, opinion formers, policy makers, the media and the public. Because of the Society's charitable status, it has to remain politically impartial, but we can still get our microbiological message across in a number of ways.

Parliamentary events

In March this year we held an event at the House of Lords, hosted by Lord Soulsby of Swaffham Prior, where peers and MPs were informed by leading microbiologists that new and re-emerging infectious diseases would spell trouble for the UK if not tackled soon (see the May 2005 issue of *Microbiology Today*, p. 96). The *Fighting Infection* event was very popular and attended by over 40 MPs and peers. It generated a lively debate between the attending parliamentarians and scientists.

These events take the form of short presentations by expert microbiologists, followed by questions and discussion. Microbiologists from widely varying subject areas are invited, as well as parliamentarians and civil servants. A buffet lunch is then served when informal dialogue can take place. There are also displays on relevant topics that are invited from institutions involved in microbiology.

SGM members will read about some of the more high profile activities that take place to raise the awareness of our discipline, but much more goes on behind the scenes, as **Faye Stokes** reveals in her update.

Following the success of the events held at Westminster and in Edinburgh in 2004 for Members of the Scottish Parliament (MSPs), the external relations team is now planning to take MAC to the Welsh Assembly in 2006 and Ireland in 2007.

Parliamentary publications

We also have an on-going programme of presenting microbiological information in publications that are read by MPs, peers and their advisers. In May, the Society published an article in the Whit 2005 issue of *Science in Parliament*, the journal of the Parliamentary and Scientific Committee. This body provides a liaison between parliamentarians and scientific organizations, industry and academia. It highlights scientific and technological issues to members of both Houses of Parliament that are relevant to matters of public interest and to the development of policy.

We find that microbiological topics attracting public attention are also of the greatest interest to government. They desperately need to know the real facts behind the hype. Hence our two-page spread reinforced the theme of fighting infection and described the problems caused by MRSA and avian influenza, as well as potential solutions, pointing out that only well trained microbiologists can help to provide these. The journal is distributed to members of the House of Commons, House of Lords, the members of the Parliamentary and Scientific Committee (scientific, industrial and academic),

Committees in the European Parliament, science attachés in UK embassies abroad and foreign embassies in London (www.scienceinparliament.org.uk/sip.asp).

SGM also places full-page adverts in magazines such as the *Parliamentary Monitor* and *The House*, usually in special issues devoted to science. The most recent one dealt with MRSA, but earlier advertisements covered zoonoses such as foot-and-mouth disease and BSE, and general public health (www.epolitix.com/EN/Publications/).

As well as including articles and adverts in journals read by parliamentarians, SGM also regularly distributes *Microbiology Today* to over 500 MPs, peers, MSPs, AMs and MLAs.

Scottish Parliament Science Information Service (SPSIS)

As an affiliated organization of the SPSIS, SGM is also helping to get accurate information about microbiology to MSPs. This service was set up to ensure that they have access to reliable, rapid and impartial facts on

science, engineering and technology to help enlighten parliamentary debates on scientific issues, raise the profile of science in the parliament and ensure MSPs are informed by appropriate, knowledgeable experts. A number of SGM members are SPSIS experts for the Scottish Parliament.

Press releases

The Society's efforts to publicize microbiology research and innovations to the public via the media have also had great success this year. Press releases are prepared for scientific research presented at SGM spring and autumn conferences, as well for every issue of *Microbiology Today* and for interesting articles in the Society's four journals. Not only have the releases from the meetings been generating worldwide interest, with references to the publicized research cited in *Nature*, by the BBC, in many local newspapers and trade magazines, not to mention an exhibit at the Science Museum in London, but the press release for Dr Mark Enright's *Comment* article on MRSA in the February 2005 issue of *Microbiology Today* led to a sensible discussion of the problem on BBC Radio 4's *Today* programme (www.sgm.ac.uk/news/media_releases.cfm; www.bbc.co.uk/radio4/today/listenagain/zthursday_20050210.shtml).

Experts

Other efforts to ensure sensible reporting of microbiological issues in the press involve the SGM Experts Database. We are always looking to expand this service, as it has been useful when putting journalists in touch with leading experts in many areas of microbiology. Recently, Dr Keith Jones commented on hotel hygiene for *You and Yours* on BBC Radio 4, Dr Susan Assinder explained the dangers of 'grow your own bacteria kits for kids' to the *South Wales Argus* and a number of experts on plague, biomining and tetanus contributed to the latest series of *The Good, the Bad and the Ugly* on BBC Radio 4.

Consultations

The same database is also used by the External Relations Office to identify members willing to comment on policy documents. Recent SGM responses have included the Government Chief Scientific Adviser's guidelines on scientific analysis in policy making, DEFRA's proposed EC directive on controls for avian influenza and FSA's draft biosecurity guidance booklet *Biosecurity on the Poultry Unit* (www.sgm.ac.uk/news/consultations.cfm).

You can help

All of these activities have helped in one way or another to improve the basic understanding of microbiology by non-experts. *E. coli*, *Salmonella* and MRSA are commonly spoken about (and not quite so often referred to as viruses!), and journalists are sometimes even using the terms bacterium and bacteria correctly. Every contribution is valuable and if you wish to influence science policies in the UK by providing comments for consultations or want to get the right microbiological message across to the media and so to the public, please join our expanding database of experts.

Is there a burning issue that you consider should be raised?

Suggestions for topics for parliamentary briefing papers and advertisement spreads are always welcome. Or maybe you would like to write a *Comment* feature for this magazine. Don't forget that it goes to hundreds of opinion-formers and decision-makers, as well as your fellow microbiologists.

Any comments and requests for an Experts Database form should be sent to pa@sgm.ac.uk

Faye Stokes

SGM Public Affairs Administrator



Jeff Green and Mark Wentworth received a PUS grant from the SGM to help promote microbiology to a local school, but the project reached a wider audience than they ever imagined.



A bug's life

A microbiology masterclass with Chaucer School in partnership with the University of Sheffield

Background

The aim of the project was to develop a series of experiments, that whilst fitting within the science National Curriculum for Key Stage 4, would teach local school students about the importance of microbiology in modern society. It also allowed them to get hands-on experience of experimental techniques and equipment that they don't have access to in school, with the hope that it might stimulate them to continue their scientific studies beyond GCSE.

Our project

The project was funded by grants from the SGM and the Royal Society's Partnership Scheme. It was divided into three sections: part one taught students the social and economic importance of micro-organisms. The second part was the microbiology master class given at the University of Sheffield. Finally, the students used the knowledge and techniques they had learnt to develop and carry out a research project in school, the results of which were written up and presented as posters.

The microbiology masterclass

The masterclass took place over 3 days in our teaching laboratories. Sixty students from both year 10 and 11 participated in the event. The masterclass itself comprised nine

experiments, making it an intensive learning experience which taught students the basic techniques used by microbiologists.

Students were taught aseptic technique, how to work safely with *E. coli* and how to culture it on plates. They then moved on to use serial dilutions to calculate the number of bacteria in a solution. Students were introduced to the importance of hygiene and found out that bacteria live on our skin and in our throats. They discovered how different conditions affect the growth and viability of *E. coli*. The students also investigated how antibiotics control and kill bacteria, using plates containing different antibiotics to identify resistant strains. They were also taught about multiple antibiotic resistance and determined which antibiotics a multiply resistant strain of *E. coli* was sensitive to. Finally, students discovered how rapidly bacteria can divide and constructed growth curves by measuring the change in turbidity of *E. coli*; they then used an electron microscope to find out what the individual bacteria looked like.

The research projects

Back at school students set to work planning their research project with help from university staff. They aimed to determine the factors that affected how fast *E. coli* could divide, such as pH, salt concentration and temperature.

Students prepared posters to present their findings to staff and invited guests at a special open evening.

Reflections on A Bug's Life

This is the second year we have run *A Bug's Life* and once again it has had a huge positive impact on the aspirations of the students and their confidence and enjoyment of science. Many of them said that they would be thinking about going to university in the future, and that they wished that all their science lessons could be more hands-on, like the microbiology practicals.

Taking A Bug's Life to the Royal Society's Summer Science Exhibition

Each year the Royal Society showcases leading research from around the country at its summer science exhibition in London in July. This year there were 25 stands, 24 representing cutting edge science from some of the best labs in the UK, while the final exhibit was one of the exceptional projects funded by the Partnership Grants Scheme. Our project was selected to put on a display to represent this category.

The exhibit

The team was made up of six year 10 students from Chaucer School (Gareth, Ismet, Katie, Laura, Lauren and Zoe)

along with their teacher Dr Aitken, and two members of university staff (Dr Wentworth and Professor Green).

During the day time the exhibition was opened to the public and school parties, and the team were kept busy explaining about microbiology and their project. On Tuesday evening the event was open to teachers and other people in education, all of whom were very impressed with the work we had done and the achievements of the students. Many people were surprised that the students manning the stand were only in the first year of their GCSEs. On the Wednesday morning the exhibition was visited by the Duke of Kent who spent some time talking to the students about their display and what they would like to do in the future.

The highlight of the event though was the black tie soirées which took place on the Wednesday and Thursday evenings. These events were expressly for Fellows of the Society and their VIP guests; all the exhibitors and the guests were dressed in their finest and the students got to wear their evening gowns and suits. Guests included eminent scientists, MPs, members of the House of Lords and FRSS.

Over the 4 days there were around 4,000 visitors, and we found ourselves constantly busy with people eager to find out about our project and what

could be achieved by students with a little help from higher education institutions like Sheffield University.

This was a once in a life-time experience for all those involved. However none of this would have been possible without funding from the SGM or the Royal Society, whom we would like to thank for their support.

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Further information

For details of SGM PUS grants, see www.sgm.ac.uk/grants

For Royal Society Partnership Awards see www.royalsoc.ac.uk/funding

- ▲ 1. The team dressed for a soirée at the Royal Society's Summer Science Exhibition. *M. Wentworth*
- 2. The Duke of Kent visits the *Bug's Life* stand. *M. Wentworth*
- 3 and 4. School students learning microbiological techniques at the university labs. *M. Wentworth*