



## A short history of MiSAC

### Origins

The Microbiology in Schools Advisory Committee (MiSAC) was founded in July 1969 following a 'Teaching Microbiology in Schools' symposium that was held as part of a more general move among the leading UK biological societies to establish ways of discussing problems arising from the teaching of specialist areas of biology. The symposium was convened by Derek Smith (Genetics Department, University of Birmingham) on behalf of the Society for General Microbiology (SGM) and chaired by John Norris (Shell Research Ltd, Sittingbourne), a member of the Society of Applied Bacteriology (SAB). The outcome was a resolution to establish a joint committee of representatives of SGM and SAB - later to be renamed the Society for Applied Microbiology (SfAM) - to promote and give help to the teaching of microbiology in schools (SGM, 1968).

The joint committee was to be called the Microbiology in Schools Advisory Committee (MiSAC) with the aims of publicising the relevance of microbiology in school syllabuses, encouraging practical work,

promoting the safe use of micro-organisms, supporting teacher and technician training, and promoting career opportunities (Bainbridge, 1972).

### Early years

As the work of MiSAC got under way, the representatives of SGM and SfAM were soon joined by those from the Association for Science Education (ASE), the Association of Training Colleges and Departments of Education, the Department of Education and Science (DES), the Public Health Laboratory Service (PHLS), the Schools Council and schools. Representation from DES through HM Inspectorate of Schools was an unusual and invaluable link. The relationship began with a decidedly frosty reaction to MiSAC's aspirations but prospered for more than 20 years until 1992 when HM Inspectorate contracted and its role changed.

The organisations covered the travel expenses of their representatives but the basic administrative costs for stationery and postage were met by grants of, initially, some £50 each from SfAM and SGM. Periodically,

sponsorship money was also received from other organisations, i.e. the Society of Chemical Industry, Science and Plants for Schools and the United Kingdom Federation of Culture Collections.

However, financial support from SfAM and SGM continued, joined much later by regular sponsorship, either by subscription or by offering services in kind, from BMS, CLEAPSS, the Institute of Biology (IOB) - later to become the Society of Biology (SB), the National Centre for Biotechnology Education (NCBE) and the Scottish Schools Equipment Research Centre (SSERC). The present membership of MiSAC consists of representatives from each of these organisations and others appointed for their particular expertise in microbiology and education, all of whom work on a voluntary basis.

### Organisation

Among those who guided MiSAC through its early development, three people in particular took on the demanding and time-consuming positions of Chairman and Secretary in rotation for the first 10 years or so, viz. Brian Bainbridge, Geoff Holt and John Wray. Others who held Office subsequently include George Burrell, Peter Fry, John Grainger, Barry Gregson-Allcott, David Hardman, Janet Hurst, Susan Isaac, Ian Jee, Muriel Rhodes-Roberts, Margaret Whalley and Paul Wymer with invaluable support over the years from many who served as lay members of the committee. MiSAC became a registered charity in 1984.

For the first 10 years, the administrative responsibilities were borne entirely by the respective Officers but as the work grew it became increasingly apparent that this was not a sustainable situation. Therefore, other arrangements were sought and responsibility for the MiSAC secretariat was taken on by IOB and then successively by NCBE and SGM. SGM also arranged for MiSAC to share its web site until 2010 when an independent MiSAC web site was launched.



MiSAC 100th meeting celebrations. From left to right: John Schollar (NCBE); Sue Hunt (RBG Kew); John Grainger (chairman); John Tranter (partially hidden); Margaret Whalley (BMS); and Janet Hurst (SGM)

## Advisory work

Despite initial misgivings about MiSAC's intentions, the HM Inspectorate representative on the committee raised the question of a code of practice for the use of micro-organisms in schools as early as 1971. The discussions that ensued were followed by invitations to advise on the government booklets on the use of micro-organisms in schools which were published in 1977, 1985 and 1990. This helped to make MiSAC a recognised authority on safety in school microbiology, a position that it still holds as exemplified by involvement in the preparation of the relevant chapter in *Topics in Safety* (ASE, 2001), the current written authority on safety in school science. As awareness of MiSAC's work grew, the number of direct enquiries from schools increased and broadened from safety issues to questions on the educational use of micro-organisms. Advice was also sought by publishers, schools suppliers, examination boards and industry.

Another early activity was the formation in 1973 of a nation-wide system of 'MiSAC Local Advisers' by recruiting professional microbiologists from the membership of BMS, SfAM and SGM who were willing to provide advice to schools in their locality. The initiative prospered for several years but was disbanded in 2000, largely because of the growth of ready access to sources of advice available through the internet. MiSAC's activities came to the ears of the Royal Society in 1982 when a committee member served on its working group on biotechnology education.

Promotion of microbiology as a career was addressed through writing articles for the education press, science and careers magazines, advising on the CRAC degree course guides on a regular basis, and contributing to the 1985 and 1990 editions of the SGM's *Careers in Microbiology* booklets. When the large professional biological organisations began to see the importance of developing their own educational activities, the need for MiSAC to have a role in advising on careers in microbiology became less important.

## Courses and conferences

An important early activity was to pioneer the provision of courses on practical microbiology for teachers. Several well-attended, one-day courses were held in London and Birmingham in the mid-1970s but this time-consuming initiative became difficult to sustain through MiSAC's voluntary organisational structure. Instead, MiSAC instituted a scheme that offered small grants to encourage professional microbiologists to give courses in their locality and 15 such grants were made in the 1980s

for courses at a range of venues in England and Wales.

The stage was reached when MiSAC felt that a more effective use of its limited resources of time would be to move from organising and delivering conferences to taking part in larger organisations' conferences and courses. This was first achieved in 1985 by taking an exhibition stand at the ASE Annual Conference, expanded in 2004 to joint sponsorship with SGM of talks in the Biology in the Real World programme, and in 2009, as part MiSAC's 40th anniversary year programme, initiating hands-on practical workshops. Other examples included taking part in the annual SB Scottish Teachers Conference, first in 2003 and later on an annual basis, and events organised by the Royal Botanic Gardens, Kew. Work on presenting courses in practical microbiology re-emerged in 2001 when MiSAC and NCBE were invited by SGM to deliver a new series in basic and advanced practical work for teachers, technicians and PGCE students (Grainger & Schollar, (2007)).

Activities such as those undertaken by MiSAC do not feature strongly in other countries apart from the USA. Therefore, members have received invitations to speak about MiSAC's work or present its materials overseas, including several continental European countries, China, Hong Kong, Japan, Malaysia and Thailand.

## Projects and publications

In its early years, MiSAC published book reviews and lists of audio-visual materials, and drew up analyses of school syllabuses but the first major venture into producing educational materials came with a project to make slide-sets on 7 microbiological topics through Camera Talks in the mid-1970s, led by committee member Bill Noble.

With great foresight, SGM funded a project to develop a series of practical activities for secondary schools in 1984-85 under the guidance of a MiSAC management group. Paul Wymer was seconded as a Schoolteacher Fellow to work on the project with John Grainger in the Department of Microbiology, University of Reading. The outcome was *Practical Microbiology and Biotechnology for Schools* published by Macdonald Educational. (Wymer & Grainger, 1987) An immediate consequence of the project was the award of funding through the Department of Trade and Industry (DTI) to found the National Centre for School Biotechnology (later re-named NCBE) at the University of Reading in 1985. After the Macdonald publication went out of print, MiSAC wrote a successor resource which was published as *Practical Microbiology for Secondary Schools* by SGM (Grainger &

Hurst, 2002. et seq.)

In order to reach young students directly, a competition for the Key Stage 3 and 4 year groups (S1/S2 and S3/S4 in Scotland) was introduced in 1985. It became an annual event in 1994 and the MiSAC Annual Competition now attracts up to 2,000 student entries each year. It is funded by additional special sponsorship to provide money prizes for students and their schools, and cover the costs of publicity and administration. The special sponsorship comes from a variety of sources but mainly from BMS, SfAM and SGM whose house magazines carry a report of each year's competition.

A series of MiSAC factsheets was started in 1998, initially for distribution at ASE Annual Conferences. Originally produced as black-and-white photocopied sheets, they progressed in 2005 to a professionally designed format, printed in colour and re-designated *MiSAC activities*, *MiSAC briefings*, *MiSAC helps* and *MiSAC matters*. Members of MiSAC also give talks and write articles and notes from time to time for various educational publications.

## Retrospect

Looking back to the original aims of MiSAC which were set more than 40 years ago, it is clear that they were sound. The main objectives that were laid down at that time have provided a basis for development and innovation by which MiSAC has continued to meet and also anticipate the trends and changing needs of the times. This has been achieved through the voluntary commitment of its members and the generosity of sponsors in their longstanding support of its activities.

## References

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