

Microbiology – a lifetime's education

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This issue of *Microbiology Today* covers microbiology education in the broadest sense of the words. Its contents range from the public educational opportunities at Millennium Science Centres, to the educational experiences of postdoctoral study in the USA and the pleasures and pitfalls of supervising postgraduates through their higher degrees. We examine the microbiology education that is to be had on bachelor's degree courses and in schools in the UK. Even the book review section is widened to take in the fun side of children's microbiology education to be found in the *Horrible Science* paperback series.

Education has often been seen in the past as a Cinderella activity for practising scientists. Indeed in 1998, when I took up the newly created role of Education Officer on SGM Council, the predominant sentiment of my academic peers was one of astonishment that I would take on a 'spare-time' task that does not count for the RAE! My experience to date as Education Officer has shown me that the highest echelons of government and commerce take education very seriously and that 'the ground' is moving very quickly. I'm convinced that we scientists all need to engage with education matters to ensure both a continued flow of qualified researchers into our field and continued public support and confidence in our work.

So these days I would suggest that education is the new mantra word for the 21st century. One of the incoming slogans of the current UK government was 'education' and the current Green Paper (*Schools: Building On Success*) from the DfEE speaks of the great need for 'education with character'. As anyone who has gone through a PhD in microbiology can attest, getting educated in our discipline is most certainly character-building. With the advent of genomics, bioinformatics and web-based courses, there have never been more reasons for the microbiologist to interface with education.

As active microbiology researchers we may see education as something that takes place in a classroom, but our everyday lab experiences are all part of our own continuing education and of those we supervise or work alongside. At the recent Spring Meeting in Heriot-Watt University almost a quarter of our total membership thronged the halls and poster sessions in an act of mass education, all telling themselves that they were there to 'keep up with research developments!' This meeting also highlighted several important educational issues for the microbiologist.

First, the particular importance of education in microbiology in the context of the social and public impacts of our subject. This was shown when Dr Nick Knowles from IAH at Pirbright briefed a packed auditorium on the foot-and-mouth disease epidemic. We SGM members, all 'microbiology experts' in our own right, keenly soaked up the real scientific details underlying the news headlines. Outside the auditorium, the public at large are fearful of micro-organisms, hearing much of their negative impacts

and little of the essential life-support mechanisms that they provide. As the majority of our research is still publicly funded, we owe it to the tax payers of the UK to put on our educators hats and to explain our own balanced views of the risks and benefits of micro-organisms and of the need for ongoing research.

The second educational aspect of the Heriot-Watt meeting was also based upon public accountability. This time it was the accountability of university educators to deliver 'quality' education to our students which is good value for money for the government. The SGM Education Group ran a very timely benchmarking symposium in which representatives from the QAA, the Benchmarking Panel and heads of university biological sciences departments discussed the means by which our microbiology degree level teaching will be assessed against a generic set of biosciences benchmark statements in future. Like it or not this kind of scrutiny is here to stay in higher education. The draft biosciences benchmark was released for consultation only days before the SGM meeting. The good news is that we are all invited to enter the consultation process so that the final benchmark produced is one we can accept. Find it at www.biohubs.org.uk

Third, the need for lifelong learning was highlighted, by a Young Members Workshop, presented by members of the Sanger Centre. It outlined the utility of a suite of bioinformatic programmes for genome interrogation, including Artemis and ACT. Many of the 'young members' sneaking in were decidedly long in the tooth and it was quite rightly pointed out that many microbiology academics would welcome training in these areas so they can apply these programmes to their research and teaching. I will be looking to see how SGM can best help members with this need in future.

Finally, the Heriot-Watt meeting was the venue for the inaugural Peter Wildy Prize Lecture for Microbiology Education. This is the SGM's way of acknowledging the value of microbiology educators in disseminating the outcomes of their researches to schools, students, other professionals or to the public at large. The first winner, Dr Alan Cann, excels in web-based microbiology higher education and he contributes to this issue. In future years I am sure that we will be honoring microbiology educators in many different fields. The very nature of microbiology and the impacts that it has on human and animal health, means that there will always be pupils and members of the public wanting to know more about the microscopic and molecular world which we explore.

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