



Dr Bob Flanagan

## Training in analytical toxicology

Hitherto, recruitment to analytical toxicology has been either directly or from trained clinical biochemistry or biomedical science staff. Training has been in-house, as in non-NHS laboratories offering similar services, and requiring staff with similar skills. In short, there was no training scheme for analytical toxicology in the NHS comparable to the clinical biochemistry graduate-entry training scheme, and no FRCPath examination or equivalent as an end-point to higher specialist training. However, a proper framework to support analytical toxicology training has been developed over the last few years, as outlined below.



Dr Ian Watson

### Pre-registration training (PRT)

In compliance with current Health Professions Council (HPC) requirements for clinical scientist registration, analytical toxicology is recognised as a submodality of clinical biochemistry. An approved (July 2008) PRT logbook to support analytical toxicology training is available from ACB Regional Tutors. An accredited three-year PRT scheme is running in the Department of Clinical Biochemistry at King's College Hospital. There are at present six trainees, two at each year of training.

A modular MSc Analytical Toxicology to support the training scheme is offered by Queen Mary, University of London. At present there are eight taught modules (three days per module), with the equivalent of four modules being a critical dissertation, based preferably on a practical project. The lectures are held in London (Medical College of St Bartholomew). The course can be taken in one year, but is designed to be typically taken over a two-year period, with the practical project being undertaken in Year 2. The first students are expected to graduate in June 2009. It is planned to develop the course and make it accessible to trainees throughout the country by distance learning as soon as funds permit.

A textbook to support the MSc is available (RJ Flanagan, A Taylor, I Watson, R Whelpton. *Fundamentals of Analytical Toxicology*. Chichester: Wiley, 2007; <http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470319356.html>).

### HPC registration

Under the current system, after satisfactory completion of the three-year training period, the candidate is issued with a Certificate of Competence. Submission of an acceptable portfolio to the Association of Clinical Scientists after an additional year of experience in a supervised clinical scientist post, ideally AfC band 7, and a satisfactory assessment interview, leads to HPC Registration (Route 1).

The alternative Route 2 (six years' relevant post-graduate experience, at least three years of which will have been obtained in a supervised clinical scientist post, ideally AfC band 7 or above) is open to those who have not gone through the approved training programme.

Assessment criteria in Clinical Biochemistry, subspecialty Analytical Toxicology, applicable to both routes, are available at [www.assclinsci.org/documents/DOC-ACS008a.pdf](http://www.assclinsci.org/documents/DOC-ACS008a.pdf).

### Higher specialist training (HST)

Hitherto motivated, committed candidates working in analytical toxicology were unable to study for a higher specialist qualification. However, as part of a general overhaul of the toxicology specialty of The Royal College of Pathologists' Fellowship examination, the Specialty Advisory Committee (SAC) on Toxicology agreed to offer analytical toxicology as a subspecialty from 2007. The first FRCPath Part 1 examinations will be held in Spring 2009. There will be two options: grandparenting or examination.

Attainment of the Part 1 examination should satisfy a major part of the requirement for entry to the EUROTOX Register of Toxicologists and to that maintained by the Council for the Registration of Forensic Practitioners (specialty: toxicology). Completion of Part 2 will result in the award of FRCPath. A detailed curriculum to support analytical toxicology HST has been drafted and forwarded to the ACB Education Committee for approval. A HST log-book to supplement the curriculum will be prepared in due course.

### Grandparenting to FRCPath Part 1

Clearly when starting a new vocational examination there will be many experienced scientists already in post who have attained, through experience, a level of knowledge that might be expected of a Fellow of

the College. In order to accommodate such people, and to promote the examination, it has been agreed by College Council that a limited number of suitably qualified and experienced scientists should be allowed to progress to Part 2 of the examination if they satisfy the following criteria, which are the same as those also agreed for the grandparenting of a number of clinical scientists in other specialties of the College. The window of opportunity for grandparenting will be limited to two years: 2009 and 2010. Applications should be submitted no later than mid-2010 in order to be processed within the time allowed for grandparenting.

Candidates for grandparenting should:

1. possess a higher degree (MSc/MPhil/PhD/DPhil/MD), or equivalent, in a branch of science relevant to analytical toxicology
2. have an appropriate period of postgraduate practice in analytical toxicology (normally a minimum of six years)
3. demonstrate a commitment to go on to take Part 2 of the examination
4. work in a laboratory in the UK or Eire.

The process of approval will consist of:

1. submission of a formal application (detailed CV, including details of three professional referees – see College guidance for full details of the information required - [www.rcpath.org.uk/index.asp?PageID=1569](http://www.rcpath.org.uk/index.asp?PageID=1569))
2. examination of the application and references by a panel of two examiners
3. formal interview by the panel
4. approval by the SAC on Toxicology and by Council.

More details are available from the College Examinations Manager, Peter Anderson ([peter.anderson@rcpath.org](mailto:peter.anderson@rcpath.org)), or the Chair of the Panel of Examiners in Toxicology, Dr John Foster ([john.foster@astrazeneca.com](mailto:john.foster@astrazeneca.com)).

The criteria against which candidates will be assessed are outlined in the toxicology examination document ([www.rcpath.org/index.asp?PageID=47](http://www.rcpath.org/index.asp?PageID=47)).

Candidate information as regards Part 2 of the FRCPath toxicology examination is as follows:

“The Part 2 examination will usually be taken a minimum of two years after achieving success in the Part 1 examination. Application to sit the Part 2 examination will follow agreement between the candidate and the sponsor that the candidate has progressed to the appropriate standard. Part 2 consists of a ‘searching’ oral examination based upon one of the following areas to be chosen by the candidate at the time of application and may include an additional test of practical competence. Prior to embarking on the chosen option the candidate should seek the College’s approval of their choice by contacting the Specialty Advisor.

- i. A thesis resulting from study for a higher degree such as MD or PhD.

- ii. A dissertation on a subject to be agreed beforehand by the College Specialty (see more detailed description in the Regulations and Guidelines for College Examinations for Membership and Diplomas).

- iii. A detailed case book (see more detailed description in the Regulations and Guidelines for College Examinations for Membership and Diplomas).

- iv. A series of peer-reviewed published papers on an experimental theme with a critical commentary.

During the conduct of the examination, candidates will be required to furnish evidence of competency to a level such that the candidate is able to (i) provide guidance to junior staff as regards all of the topics listed in this section AND (ii) to provide consultant level opinion and leadership on all topics immediately relevant to their practice in their chosen subspecialty.”

There is no fee for Part 1 by grandparenting, but College fees for Part 2 still apply (in 2009 this will be £965). Successful grandparenting candidates are free to proceed to Part 2 examination as soon as they wish. Membership fees will be payable by successful Part 2 candidates.

The option of applying for College Fellowship via submission of published works still remains ([www.rcpath.org/resources/pdf/publishedworkso8a.pdf](http://www.rcpath.org/resources/pdf/publishedworkso8a.pdf)). Traditionally, this has been the route taken by most toxicologists seeking College membership. College guidance suggests that the required standard is unlikely to be reached without the submission of at least 30 peer-reviewed publications (which may include review articles) that make substantial high-quality contributions to research and practice within the nominated discipline. The candidate should be the first or senior author on a minimum of ten of these submitted papers. The 2009 fee for applications by this route is £1315.

### Modernising Scientific Careers

The framework outlined above has been developed in response to Governmental training and registration requirements. With the advent of the Department of Health’s Modernising Scientific Careers (MSC) initiative, we believe that much of the work undertaken to support the discipline (notably textbook, MSc Analytical Toxicology, FRCPath examination) will remain relevant both in the transition to MSC and after full implementation.

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