Recording your Continuing Professional Development

Examples

Introduction

This document provides applicants who are applying for **re-registration** to the UKRT with examples from a real CPD record. These should be read in conjunction with the UKRT's advice on recording Continuing Professional Development (CPD).

Should you have any questions regarding the information provided in this document, or find that the document does not address your concerns, please contact us at toxreg@rsb.org.uk.

CPD and re-registration

Members of the UKRT are required to apply for renewal of registration every 5 years, demonstrating that they continue to be engaged in the practice of toxicology and have pursued an appropriate programme of CPD. The Panel of the UKRT will assess suitability for renewal of registration on the basis of evidence of continuing involvement in toxicology and the quality of the applicant's CPD record.

Applicants for re-registration are required to submit their CPD record over the preceding 5 years. For years of registration prior to transferring to the online register this should be maintained using the UKRT's CPD Excel spreadsheet. Following transfer to the online register all CPD records should be maintained using the Royal Society of Biology's online *Learning for Life* system (unless the applicant in registered for another recognized CPD scheme such as that offered by the Royal College of Pathologists). During the transitional period between the new and old systems, applicants may submit a mixture of records maintained using the Excel spreadsheet and the *Learning for Life* system.

For advice on recording your CPD on the Royal Society of Biology's online system, please refer to the Learning for Life document.

How should I record my CPD in the spreadsheet?

An example of how to record your 5 year CPD record in the Excel spreadsheet is provided in *Appendix 1*. The example provided is just one year of the applicant's CPD record, of the total five. For each CPD activity, you should also provide reflective notes (see below for guidance). Please note in the example below the applicant has provided reflective notes in the form of supplementary notes.

For further advice on recording your CPD using the Excel spreadsheet, please refer to the UKRT's advice document.

To view an example of how to record CPD on your online Royal Society of Biology account, please refer to *Appendix 2.*

What are reflective notes?

The purpose of a reflective note in your CPD portfolio is twofold. Its preparation helps you to reflect on an educational activity or experience, enabling you to appreciate what learning took place, what stimulated it and how it affected you. In addition, it forms a written record of the activity undertaken. This is particularly useful in the case of activities for which no hard copy evidence is available, for example, experiences falling under the heading of "private study".

As a rough guide, the reflective note should include the following points:

- *What prompted the CPD activity? For example, why did you attend a conference, decide to take a training course or read a specific journal article?*
- *Record at least one learning point. You may also wish to record the outcome of the learning and note any actions you intend to take as a result.*
- *Has the activity resulted in any future learning needs?*
- *Can you upload supporting evidence? E.g. meeting agenda, copy of notes from a discussion, abstract of paper. Where it is not possible to add specific items of evidence to the portfolio because of confidentiality considerations, a note to this effect may be added.*

What activities can I record as CPD?

The purpose of your CPD record is to demonstrate that you are actively engaged in the profession of toxicology. There are three key elements to this: learning more about toxicology, developing the additional skills you need to function as a professional toxicologist and making a contribution to the wider community from the toxicological perspective. When completing your annual CPD return you should therefore think about your activities under all three of the headings above.

When assessing a CPD return the Panel looks for a wide variety of activities. These should include both job-related and extracurricular activities. The former can include, for example, background reading in preparation for writing a report, journal clubs and departmental seminars while external activities like conferences, attending public lectures and reviewing journal papers would fall under the heading of "extracurricular activities".

Try to include as wide a range of activities as possible. The examples and supplementary notes in the Appendices illustrate the range of CPD activities undertaken by one successful re-registrant and may provide you with ideas for your submission. If you are in any doubt as to whether to include a particular item just go ahead and do so: you will never be penalised for including extra information but a lack of variety in the activities recorded can lead the Panel to query a return.

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- *Record at least one learning point. You may also wish to record the outcome of the learning and note any actions you intend to take as a result.*
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Try to include as wide a range of activities as possible. The examples and supplementary notes in the Appendices illustrate the range of CPD activities undertaken by one successful re-registrant and may provide you with ideas for your submission. If you are in any doubt as to whether to include a particular item just go ahead and do so: you will never be penalised for including extra information but a lack of variety in the activities recorded can lead the Panel to query a return.

Appendix 1

Example: CPD summary 2013-14

ACTIVITY	CREDITS/UNIT	UNIT	No. Units	Details of activity undertaken	Date	item credits
Professional activity: Government committee	5	per year=	1	Member of Hazardous Substances Advisory Committee; attended meetings on 11-Jun-13, 03-Dec-13, 25-Mar-14. Participated in Horizon Scanning workshop on 10-Jul-13. Volunteered for the Nanomaterials Working Group with effect from 1st January 2014. Contributed to development of the HSAC statement "Hazard and Risk Assessment of Substances: The HSAC approach" issued 14th June 2013 (listed separately).	01-Apr-13	5
Professional activity: Government committee	5	per year=	1	Member of Scottish Food Advisory Committee; attended meetings on 09-Apr-13, 28-May-12, 03-Sep-13, 14-Jan-14, 25-Feb-14. Participated in discussions on the New Food Body, the so-called "Horsemeat Incident", the Scottish live bivalve mollusc monitoring programme, mandatory fortification of bread and flour with folic acid, GM Free Labelling of Food and monitoring of radioactivity in food. Also represented SFAC at Royal Highland Show on 20/21-Jun-13 and attended SFAC retreat on 25/26-Jul-13. Drafted preliminary briefing document to inform Committee discussions on Enforcement/Official Controls.	01-Apr-13	5
Professional activity: learned society committee	5	per year=	1	Member of the Panel of the UK Register of Toxicologists; reviewed applications and attended meetings on 22-May-13, 25-Sep-13, 28-Jan-14. Continued to contribute to discussions on the upgrading of the CPD system and the move towards use of the Society of Biology's online membership and "Learning for Life" CPD systems.	01-Apr-13	5
Teaching: postgraduate lecture	1	hour(s)=	1	Following on from my lectures at Surrey in March, marked scripts from the ten students who had attempted my question: *What are the relative merits of genotype- and phenotype-based analysis in pharmacogenetic testing?* This exercise provided valuable feedback in that it demonstrated the extent to which the students had taken in and understood the content of my lectures.	23-Apr-13	1
Education: attending workshop	1	hour(s)=	5	Attended FSAS Nutrition Science Event whose aim was "to engage with stakeholders around the FSA in Scotland nutrition research and surveillance programme and the public health issues that matter". The event launched the FSA in Scotland's new *eatwell everyday* website. I attended this event as a member of SFAC but also because of my personal interest in healthy eating. Session topics: Monitoring diet in Scotland; Monitoring the food chain; Developing tools to communicate healthy eating advice.	30-Apr-13	5
Publishing: reviewed (refereed) an article	1	per item=	1	Sue Barlow invited me (presumably on the strength of my previous work on aspartame for EFSA) to review an article submitted to *Food and Chemical Toxicology* I identified a number of issues with this review article but provided detailed suggestions as to how it could be improved, and a revised version was ultimately accepted.	03-May-13	1
Private study: library reading	1	hour(s)=	1	Read "Silent Spring" by Rachel Carson. I expected this classic of the environmental toxicology literature to be a polemic but was agreeably surprised to find that it is beautifully written and quite reasonable in tone.	22-May-13	1
Education: attending lecture	1	hour(s)=	1	Attended lectures on Systematic Review and Evidence Synthesis (Ruth Garside) and NICE evidence based policy making (Ken Stein), covering evidence-based medicine, systematic review and meta-analysis. Gained a better understanding of the issues and procedures involved in formal systematic reviews and how NICE operates.	11-Jun-13	1

Example: CPD summary 2013-14

Professional activity: Government committee	5	per year=	1	Member of HSAC Working Group on Hazard and Risk Assessment of Substances, tasked with developing a document articulating HSAC's view that policy decisions should, wherever possible, be based on an assessment of risk, not just hazard. The resulting Committee Opinion "Hazard and Risk Assessment of Substances: The HSAC approach" was issued on 14-Jun-13.	14-Jun-13	5
Education: attending meeting	1	hour(s)=	3	Attended afternoon meeting of the Scottish Toxicology Interest Group, including presentations on: analytical methods to track effects of next-generation nanomedicines on patients, toxicity of metal ions/debris released from metal-on-metal hip implants, use of zebrafish to investigate the toxicology of manufactured nanoparticles and the impact of nanomaterials on human host defence. There was also a poster session.	01-Jul-13	3
Education: attending meeting	1	hour(s)=	3	Attended an open meeting of the Board of the Food Standards Agency as a member of SFAC. Topics addressed included a revised strategic approach to *Campylobacter* reduction in the UK chicken flock and development of the FSA's Incident Contingency Plan (a hot topic throughout 2013 due to the horsemeat incident). The SFAC Chair, Jim Wildgoose, also presented the SFAC Annual Report at this meeting.	11-Sep-13	3
Education: attending meeting	1	hour(s)=	2	Attended "Using Science and Evidence: How the Food Standards Agency helps to keep food safe", an event to launch the Annual Report of the Food Standard's Agency's Chief Scientist. This year the event focussed on food allergies. The main item on the agenda was a keynote speech "Food allergy: Challenges and Developments" by Prof. Ian Kimber, Professor of Toxicology, Faculty of Life Sciences, University of Manchester.	24-Sep-13	2
Private study: unforeseen learning and development opportunity	1	hour(s)=	1	Correspondence with the Editor, Christian Aid news. In response to an article in the autumn 2013 issue entitled "Pesticide misuse affects millions each year", which addressed pesticide toxicity in the Third World, wrote an email to the Editor critiquing the article from a toxicological perspective. Did not receive any response!	15-Nov-13	1
Professional activity: review grant application	1	per item=	1	Reviewed Ethical Tissue application entitled [redacted] whose aim was to support the development of new drug therapies for head and neck squamous cell carcinoma. It requested human tissue samples in order to examine membrane-type matrix metalloproteinases, cytochromes P450 and neural cell adhesion molecule.	25-Nov-13	1
Education: attending workshop	1	hour(s)=	1	Visited Leeds Medical School to work with Kay White and Alastair Hay and try to develop a publishable version of the manuscript "Faster caffeine metabolism during pregnancy is associated with an increased risk of fetal growth restriction" which had been rejected by *Reproductive Toxicology* . Resulted in submission of a revised manuscript entitled "Cytochrome P450 CYP1A2 genotype: Relationship with fetal growth restriction", but this was also rejected.	04-Dec-13	1
Professional activity: review grant application	1	per item=	1	Reviewed Ethical Tissue application entitled [redacted] The intention was to use the Comet assay to analyse lymphocytes from patients referred for colonoscopy with a view to identifying those with increased sensitivity to UVA-induced DNA strand breaks (believed by the applicants to be indicative of the presence of a tumour).	15-Jan-14	1

Example: CPD summary 2013-14

Education: attending lecture	1	hour(s)=	1	Attended presentation by Clifton Bain, Director of the IUCN UK Peatland Programme, which advocates the multiple benefits of peatlands through partnerships, strong science, sound policy and effective practice. Lecture addressed the importance of peatlands in maintaining a healthy environment in terms of plants, animals and carbon storage. Also covered the role of peatland in maintaining water quality and remediating contamination.	22-Jan-14	1
Teaching: postgraduate lecture	1	hour(s)=	2	Modular Training Programme in Applied Toxicology, University of Surrey: Lectured module entitled "Carcinogenicity and Mutagenicity". Updated and delivered two lectures: "Oncogenes in experimental carcinogenesis" and "Genetic polymorphisms and risk assessment".	04-Mar-14	2
Private study: journal reading	1	hour(s)=	1	Prepared literature review on dichloromethane (DCM), updating a previous report submitted [redacted] in 2008. The most interesting developments over the last five years have been an increase in discussion of the potential role of CYP2E1 in DCM toxicity and the emergence of data relevant to molecular changes which may occur in response to DCM treatment. The discussions on CYP2E1, while intriguing, have not yet led to a testable mechanism; technological developments in 'omics methodology, on the other hand, make this an obvious area for future effort.	07-Mar-14	1
Professional activity: review grant application	1	per item=	1	Reviewed revised version of Ethical Tissue application [redacted] addressing the points I raised in my previous review. In particular, the person actually supervising the work is now correctly identified as Principal Investigator, the recruitment/consenting procedure is appropriate and properly described, the statistical tests to be performed are specified and supporting references are provided. The application was now acceptable.	12-Mar-14	1
Education: attending meeting	1	hour(s)=	2	Having been asked to facilitate SFAC discussions on FSAS Enforcement/Official Controls activities, Carrie Ruxton and I had a meeting with Peter Midgeley of FSAS, who gave us a detailed tutorial addressing the scope of enforcement, as prescribed by Regulation EU 882/2004 and interpreted in the official Food and Feed Controls in Scotland. This was followed by a teleconference with Bill Adamson, an expert on the relevant legislation. This meeting and teleconference provided me with the background knowledge I needed in order to be able to draft preliminary notes in support of SFAC's discussions on Enforcement/Official Controls in the lead-up to the vesting of the New Food Body for Scotland.	20-Mar-14	2
Professional activity: review grant application	1	per item=	1	Participated in external review of EFSA's scientific grants and procurement projects. Provided feedback on my experiences and views, focusing on the project 'Preparatory work for the re-evaluation of aspartame' (contract reference: CT/EFSA/ANS/2011/03). This entailed completing an online questionnaire and participating in a structured telephone interview.	31-Mar-14	1
Education: attending meeting	1	hour(s)=	1	Met with Nicky McGirr (Commissioning Editor, Wiley-Blackwell, Gary Hutcheson and Eva Malone (Edinburgh Napier University) to discuss possible collaboration on a textbook of Nanotoxicology. Topics under discussion included possible contributors and topics to be covered.	01-Apr-14	1

Activity

Title of activity

Hazardous Substances Advisory Committee

Venue

Conference Centre, Church House, Westminster

Description of activity

Member of Hazardous Substances Advisory Committee; attended meetings on 11-Jun-13, 03-Dec-13, 25-Mar-14.

Participated in Horizon Scanning workshop on 10-Jul-13. This resulted in the identification of four areas of work in addition to dealing with routine requests:

- Pharmaceuticals in the Environment (N.B. This one had already been running for some time)
- Nanomaterials
- Endocrine disruptors
- Quality standards for evidence

I volunteered for the Nanomaterials Working Group with effect from 1st January 2014 (had held off until that point due to other commitments) and started to work closely with Gary Hutchison on various aspects of nanotoxicology and nanomaterials in the environment, including monitoring of the FP7 NanoReg project.

As member of Hazard and Risk Working Group, I played a key role in the development of the HSAC statement "Hazard and Risk Assessment of Substances: The HSAC approach" issued 14th June 2013 (listed separately).

Outcome

On 1st January 2014 I became the first person to be appointed to the ACHS/HSAC for a third consecutive term. This will mean that by the end of my current appointment I will have served on the committee for 10 years.

Notes

Evidence: Letters of reappointment. Minutes and statements available online.

Register of Toxicologists classification: Professional activity: Government committee.

Date the activity started:	**01-Apr-13**	**Date the activity finished:**	**31-Mar-14**
Number of credits claimed:	**5**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Activity

Title of activity

Scottish Food Advisory Committee

Venue

Food Standards Agency Scotland, St Magnus House, Aberdeen

Description of activity

Member of Scottish Food Advisory Committee; attended meetings on 09-Apr-13, 28-May-12, 03-Sep-13, 14-Jan-14, 25-Feb-14. Participated in discussions on the New Food Body (NFB), the so-called "Horsemeat Incident", the Scottish live bivalve mollusc monitoring programme (including the costs and benefits of various methods for testing for marine biotoxins and the extent to which small businesses should have to cover such costs themselves), mandatory fortification of bread and flour with folic acid, GM Free Labelling of Food and monitoring of radioactivity in food. Also:

- Represented SFAC at Royal Highland Show on 20/21-Jun-13.
- Attended SFAC retreat on 25/26-Jul-13, main topics of discussion being the NFB and the horsemeat incident.
- Drafted preliminary briefing document to inform Committee discussions on Enforcement/Official Controls.

Outcome

Most of SFAC's work this year focussed on supporting FSAS in moving towards the establishment of the NFB, although in mid-2013 there was also great emphasis on the horsemeat incident, especially with respect to food authenticity, including discussion on setting a threshold for contamination of processed meat products with undeclared meat species and the legal powers of the FSA. From my personal perspective of being married to a former Procurator Fiscal I was able to advise on differences in prosecution practice between Scotland and the rest of the UK.

In discussions on the role of sound science in communications I was able to identify and resolve confusion between the provision of evidence (in the form of, for example, peer-reviewed publications and government health statistics) and the evaluation of evidence, which is carried out by bodies such as the Advisory Committees and EFSA. The Advisory Committees do not generate new evidence themselves although they may stimulate its acquisition by identifying data gaps and recommending calls for proposals.

My background in studies of folic acid metabolism and neural tube development allowed me to contribute to the provision of advice to Scottish Ministers on mandatory fortification of bread and flour with folic acid.

Notes

Evidence: Letter of appointment. Minutes and statements available online.

Register of Toxicologists classification: Professional activity: Government committee.

Date the activity started:	**01-Apr-13**	**Date the activity finished:**	**31-Mar-14**
Number of credits claimed:	**5**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Activity

Title of activity

Panel of the UK Register of Toxicologists

Venue

Charles Darwin House, Roger Street, London

Description of activity

Vice-Chair of the Panel of the UK Register of Toxicologists; reviewed applications and attended meetings on 22-May-13, 25-Sep-13, 28-Jan-14.

Continued to contribute to discussions on the upgrading of the CPD system and the move towards use of the Society of Biology's online membership and "Learning for Life" CPD systems.

Supported the Chair in dealing with issues around the move to the online membership/CPD system at the end of 2013/beginning of 2014. Carried our test applications to check the system and identify gremlins (19-Feb-14).

Outcome

Decision was made to adopt the online "Learning for Life" CPD system with effect from January 2014. I agreed to test the system as soon as it becomes available to UKRT members.

In the event, there were serious delays in implementing the new system and we had to resort to a gradual transfer of members to the new system during the course of 2014.

Notes

Evidence: Minutes of meeting held 30-Mar-12.

Register of Toxicologists classification: Professional activity: learned society committee.

Date the activity started:	**01-Apr-13**	**Date the activity finished:**	**31-Mar-14**
Number of credits claimed:	**5**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Reflective note

Heading

Marking exam scripts from the MSc in Applied Toxicology, University of Surrey

Please describe the learning activity and your reflection

Following on from my lectures at Surrey in March, marked scripts from the ten students who had attempted my question: *What are the relative merits of genotype- and phenotype-based analysis in pharmacogenetic testing?*

Comments

This exercise provided valuable feedback in that it demonstrated the extent to which the students had taken in and understood the content of my lectures. There seemed to be a clear divide between very good and rather weak answers; interestingly the mean mark came out to be 5.75, which is about right, but it was very much a bimodal distribution. This suggested that some students had found the topic easy to understand while others struggled with it; this may have been a function of whether or not they had a background in molecular biology.

Notes

Evidence: Exam questions and marking scheme.

Actual number of hours spent: 1

Register of Toxicologists classification: Teaching: postgraduate lecture

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**23-Apr-13**	**Date the activity finished:**	**23-Apr-13**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	✓	Professional	☐

Activity

Title of activity

FSAS Nutrition Science Event

Venue

Discovery Point, Discovery Quay, Dundee

Description of activity

The aim of this event was "to engage with stakeholders around the FSA in Scotland nutrition research and surveillance programme and the public health issues that matter". The event launched the FSA in Scotland's new *eatwell everyday* website, a resource to help consumers better understand what a healthy balanced diet looks like.

Session topics:

- Monitoring diet in Scotland (Heather Peace, Wendy Wrieden, Geraldine McNeil, Gillian Purdon, Anne Milne)
- Monitoring the food chain (Cathy Capelin, Anne Milne)
- Developing tools to communicate healthy eating advice (Emma Foster, Fiona Comrie, Storm ID Digital Media)

Comments

I attended this event as a member of SFAC but also because of my personal interest in healthy eating. I was very disappointed in the *eatwell everyday* website, which seems extremely prescriptive in what it recommends as a healthy diet and, indeed, on the way home I had a detailed discussion with Catherine Hankey, a dietician from the University of Glasgow who had been engaged to support this work but found that her advice had been largely ignored. She subsequently provided me with one of her publications prepared in the lead up to development of the website.

Other elements, such as the presentations on living costs, children's diets and salt intake, were interesting and provided useful background for my work with SFAC.

Notes

Evidence: Annotated agenda and notes, handouts, email from Catherine Hankey

Actual number of hours spent: 1

Register of Toxicologists classification: Education: attending workshop

Date the activity started:	**30-Apr-13**	**Date the activity finished:**	**30-Apr-13**
Number of credits claimed:	**5**	**Additional evidence:**	**Yes**

Category: General Interest ✓ Academic □ Professional □

Reflective note

Heading

Review of manuscript [redacted] for Food and Chemical Toxicology

Please describe the learning activity and your reflection

Sue Barlow invited me (presumably on the strength of my previous work on aspartame for EFSA) to review an article submitted to Food and Chemical Toxicology [redacted]

Comments

I identified a number of issues with this review article but provided detailed suggestions as to how it could be improved, and a revised version was ultimately accepted.

As with many articles on aspartame the original version was something of a polemic and I was pleased to be able to guide the authors in toning it down a bit!

Notes

Evidence: Email correspondence; notes and review held as confidential.

Actual number of hours spent: 1

Register of Toxicologists classification: Publishing: reviewed (refereed) an article

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**02-May-13**	**Date the activity finished:**	**03-May-13**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	☐	Professional ✓

Reflective note

Heading

Reading “Silent Spring” by Rachel Carson

Please describe the learning activity and your reflection

Finally got round to reading this classic of the environmental toxicology literature.

What have you learned?

I expected the book to be a polemic but was agreeably surprised to find that it is beautifully written and quite reasonable in tone.

It provides a fascinating historical snapshot of the situation before the adverse consequences of excessive use of indiscriminately toxic pesticides were realised. It was good to see how far we have come in the ensuing 50 years, but also worrying to see that some things have not really changed that much.

I had not realised that concerns about biocides went back that far.

It was also interesting to read a book written at a time when the initiation-promotion-progression paradigm of carcinogenesis, while being mooted, had not become dominant and to see that process being given equal weight with other proposed mechanisms that are now held in much less regard or even disproven altogether.

Has this highlighted any future learning needs?

No

Evidence: copy of book
Actual number of hours spent: about 4
Register of Toxicologists classification: Credits claimed according to guidelines provided by Royal College of Pathologists (1 credit per reflective note).

Date the activity started: 30-Apr-23 **Date the activity finished: 22-May-13**

Number of credits claimed: 1 **Additional evidence: N/A**

Category:

General Interest ✓ Academic ☐ Professional ☐

Activity

Title of activity

Systematic Review and Evidence Synthesis (Ruth Garside)
NICE evidence based policy making (Ken Stein)

Venue

Church House Conference Centre, Westminster

Description of activity

Two seminars on evidence-based decision making including

- Evidence-based medicine
- Systematic review
- Focusing the question
- Review
- Meta-analysis
- Assessment and appraisal
- Decisions

Outcome

Provided a better understanding of issues and procedures involved in formal systematic reviews as well as how NICE operates.

Notes

Evidence: notes take during seminars
Register of Toxicologists classification: Attending lecture
Credits claimed: 1

Date the activity started: **11-Jun-13** **Date the activity finished:** **11-Jun-13**

Number of credits claimed: **1** **Additional evidence:** **Yes**

Category: General Interest ✓ Academic □ Professional □

Activity

Title of activity

HSAC Working Group on Hazard and Risk Assessment of Substances

Venue

Various

Description of activity

The HSAC Working Group on Hazard and Risk Assessment of Substances was tasked with developing a "think-piece" (not my term!) describing the Committee's approach to Hazard and Risk. In particular, we were asked to articulate its view that policy decisions should, wherever possible, be based on an assessment of risk, not just hazard. The Working Group's activities kicked off with a brainstorming session at Imperial College on 04-Oct-12, which was followed by a number of teleconferences and the circulation of a series of draft documents. The original intention had been to issue the statement by the end of 2012, but the draft reviewed by at the December 2012 HSAC meeting was unsatisfactory to several members of the Working Group as well as to the Committee as a whole. Membership of the Working Group was therefore reviewed and the document was redrafted. Gill Clare, Hilary Stone and I took over drafting responsibilities, with support from other members, and succeeded in producing the version which was finally issued in mid-2013.

Comments

This was an appropriate follow-up to my previous work with the COT Working Group on Variability and Uncertainty. Development of the statement involved much detailed thinking and discussion and provided an opportunity to develop and articulate my own thinking in this area.

Notes

Evidence: Copy of statement: "Hazard and Risk Assessment of Substances: The HSAC approach"

Register of Toxicologists classification: Professional activity: Government committee

Date the activity started:	**04-Oct-12**	**Date the activity finished:**	**13-Jun-13**
Number of credits claimed:	**5**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Activity

Title of activity

Scottish Toxicology Interest Group

Venue

SIPBS Building, Strathclyde University, Glasgow

Description of activity

Afternoon meeting of the Scottish Toxicology Interest Group, including presentations on: analytical methods to track effects of next-generation nanomedicines on patients, toxicity of metal ions/debris released from metal-on-metal hip implants, use of zebrafish to investigate the toxicology of manufactured nanoparticles and the impact of nanomaterials on human host defence. There was also a poster session.

Comments

This meeting is always a good opportunity to meet young toxicologists, including PhD students (at whom it is really aimed). On this occasion, though, the real highlight was Ted Henry's presentation on zebrafish as a model for studies in nanotoxicology. This provided me with invaluable material to improve the section on zebrafish in my Molecular and Cellular Toxicology textbook, and Ted kindly agreed to give me some pictures and data to use in the book.

Notes

Evidence: annotated agenda.

Actual number of hours spent: 3

Register of Toxicologists classification: Education: attending meeting

Date the activity started:	**01-Jul-13**	**Date the activity finished:**	**01-Jul-13**
Number of credits claimed:	**3**	**Additional evidence:**	**Yes**

Category:	General Interest	✓	Academic □	Professional □

Activity

Title of activity

Open Meeting of the Board of the Food Standards Agency

Venue

Copthorne Hotel, Aberdeen

Description of activity

Attended an open meeting of the Board of the Food Standards Agency by invitation as a member of SFAC.

Comments

This was a meeting of the Board of the FSA for the entire UK so it should have covered topics of relevance to Scotland as well as England, Wales and Northern Ireland. However, the remit of the FSA in England and Wales no longer includes nutrition and I was disappointed that no nutrition items were included on the agenda for this meeting, despite it being held in Scotland, where the remit of FSAS still includes nutrition. I therefore posed the following question during the Q&A session: "I note that none of the items on today's agenda relates to nutrition. Given that we are in Scotland, where the FSA's remit still includes nutrition, will the Board please explain how it is fulfilling this responsibility and, in particular, how it plans to work towards improved nutritional status among the Scottish population over the next 18 months." The thrust of this question was to try to keep the Board focussed on nutrition over the period leading up to the vesting of the New Food Body in April 2015.

On this occasion no items directly relevant to toxicology were on the agenda.

Notes

Evidence: Attendee list.

Actual number of hours spent: 3

Register of Toxicologists classification: Education: attending meeting

Date the activity started:	**11-Jul-12**	**Date the activity finished:**	**11-Jul-12**
Number of credits claimed:	**3**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Activity

Title of activity

Using Science and Evidence: How the Food Standards Agency helps to keep food safe

Venue

The Royal Society

Description of activity

Event to launch the Annual Report of the Food Standard's Agency's Chief Scientist. This year the event focussed on food allergies. There were brief presentations by the Chief Scientist, Andrew Wadge, and Sue Hattersley of the FSA Food Allergy and Intolerance Branch but the main item on the agenda was a keynote speech – "Food allergy: Challenges and Developments" - by Prof. Ian Kimber, Professor of Toxicology, Faculty of Life Sciences, University of Manchester.

Comments

Ian's lecture was, as always, great value for money. He provided an update on all aspects of food allergy; perhaps the most interesting item was the result of a recent clinical trial indicating that children with peanut allergy could be protected by small daily doses of peanut protein. The study found that after six months 84-91% of the children given peanut flour could safely tolerate 800mg of peanut protein – equivalent to five peanuts, and at least 25 times as much as they could tolerate before treatment. Children in the control group could not tolerate peanuts at all.

Notes

This event provided a valuable update on the latest findings in relation to immunotoxicology and food allergies. The networking session was a good opportunity to renew contact with Ian Kimber and Sue Hattersley, whom I usually only meet up with at BTS Annual Congresses. It was also a chance to say goodbye to Andrew Wadge as this was his last Annual report before retiring.

Evidence: Meeting agenda and handouts on food allergy, intolerance and food allergen labelling

Actual number of hours spent: 2

Register of Toxicologists classification: Education: attending meeting

Date the activity started:	**24-Sep13**	**Date the activity finished:**	**23-Sep-13**
Number of credits claimed:	**2**	**Additional evidence:**	**Yes**

Category: General Interest ✓ Academic □ Professional □

Reflective note

Heading

Letter responding to article in Christian Aid News: “Pesticide misuse affects millions each year”

Please describe the learning activity and your reflection

I was pleased to see an article in the autumn 2013 issue of Christian Aid news which addressed pesticide toxicity in the Third World, a topic which is rarely addressed in the mainstream media. However, on reading the article closely I was disappointed to see that it promulgated some common misconceptions including the suggestion that farmers in the Third World could make use of “chemical-free pesticides” and that “home-made, organic pesticides” are in some way "safer" than commercial ones. I therefore wrote an email to the Editor critiquing the article from a toxicological perspective and expressing the hope that “the News will continue to report on issues relating to chemical hazards, which can be of great importance as developing countries try to diversify their agriculture and industry, but…will in future be a little more careful not to perpetuate the myth that all chemicals are bad and everything organic is good.”

Comments

I gained some satisfaction from articulating a more objective viewpoint on this issue and received a very appreciative response from my personal Christian Aid contact, Crispin Longden, to whom I copied the email and who commented: “Thank you very much for copying me in to your letter to the editor of CAN in response to the article on pesticides in the latest edition – Pesticide Misuse affects Millions each Year. It is cogently argued and elegantly written so I would very much hope that it evokes an equally cogent response and in published form.”

I was disappointed, however, not to receive any response from the Editor; nor was the email published in the following edition.

Notes

Evidence: Copy of article, email and response from Crispin Longden.

Actual number of hours spent: 1

Register of Toxicologists classification: Private study: unforeseen learning and development opportunity

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**15-Nov-13**	**Date the activity finished:**	**15-Nov-13**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	✓	Academic	☐	Professional ☐

Reflective note

Heading

Review of Ethical Tissue application

Please describe the learning activity and your reflection

Reviewed application for human tissue use whose aim was to support the development of new drug therapies for head and neck squamous cell carcinoma. It requested human tissue samples in order to examine membrane-type matrix metalloproteinases, cytochromes P450 and neural cell adhesion molecule.

Comments

The application was rather diffuse, covering at least three different sub-projects, and the proposal lacked focus. I felt that it was insufficiently detailed and did not provide enough justification for the allocation of precious human tissue samples.

Notes

Evidence: Email correspondence. Notes and review held as confidential.

Actual number of hours spent: 1

Register of Toxicologists classification: Professional activity: review grant application

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**25-Nov-13**	**Date the activity finished:**	**25-Nov-13**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	☐	Professional ✓

Reflective note

Heading

Working party on manuscript "Cytochrome P450 CYP1A2 genotype: Relationship with fetal growth restriction"

Please describe the learning activity and your reflection

Spent an intense day at Leeds Medical School working with Kay White and Alastair Hay to try to develop a publishable version of the manuscript "Faster caffeine metabolism during pregnancy is associated with an increased risk of fetal growth restriction" which had been turned down by *Reproductive Toxicology*. We completely redrafted the manuscript, creating a much shorter, completely revised version as advised by the Editor and highlighting the following key findings:

- A subset of 128 study participants was subjected to CYP1A2 genotyping, which was matched to growth outcome.
- The risk of fetal growth restriction did not appear to be a function of CYP1A2 genotype in this subpopulation.

Comments

Having received no input from the other authors of the original CARE Caffeine study and the resulting submission to *Reproductive Toxicology*, we decided to submit a completely revised version focussing exclusively on the genotyping results Kay had generated in Leeds. The author list for the paper was amended accordingly. At our working party Kay, Alastair and I worked very hard on the manuscript and really felt that we had improved it, making it the best we possibly could. Unfortunately, however, the manuscript was still rejected and eventually we decided, with great regret, that we would have to abandon it (hence no CPD record for publication).

Notes

Evidence: Email correspondence; draft manuscript and supporting documents available on request.

Actual number of hours spent: 6 for working party plus many more!

Register of Toxicologists classification: Education: attending workshop

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**04-Dec-13**	**Date the activity finished:**	**04-Dec-13**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	✓	Professional ☐

Reflective note

Heading

Review of Ethical Tissue application

Please describe the learning activity and your reflection

Reviewed an application for human tissue use entitled whose stated aim was "to identify people with cancer" (!). The intention was to use the Comet assay to analyse lymphocytes from patients referred for colonoscopy with a view to identifying those with increased sensitivity to UVA-induced DNA strand breaks (believed by the applicants to be indicative of the presence of a tumour).

Comments

The application was vague as to the origin of the samples to be used, lines of responsibility for the project, sample management, methodology. There was also a lack of evidence to indicate that the researchers had sufficient experience in the handling of human tissues and the techniques to be used. I therefore had to reject the application, but with the undertaking to review a revised application should one be submitted.

Notes

Evidence: Email correspondence. Notes and review held as confidential.

Actual number of hours spent: 1

Register of Toxicologists classification: Professional activity: review grant application

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**15-Jan-14**	**Date the activity finished:**	**15-Jan-14**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	☐	Professional ✓

Activity

Title of activity

Royal Scottish Geographical Society lecture: Going with the Flows

Venue

Appleton Tower, University of Edinburgh

Description of activity

Presentation by Clifton Bain, Director of the IUCN UK Peatland Programme, which advocates the multiple benefits of peatlands through partnerships, strong science, sound policy and effective practice. Lecture addressed the importance of peatlands in maintaining a healthy environment in terms of plants, animals and carbon storage. Also covered the role of peatland in maintaining water quality and remediating contamination.

Outcome

This lecture gave me a much better understanding of the environmental importance of peatlands, enhancing my ability to contribute to HSAC discussions on environmental toxicology, particularly with respect to these environmentally sensitive landsapes.

Notes

Evidence: Lecture announcement from RSGS website

Date the activity started:	**22-Jan-14**	**Date the activity finished:**	**22-Jan-14**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category: General Interest ✓ Academic □ Professional □

Activity

Title of activity

Modular Training Programme in Applied Toxicology

Venue

Leggett Building, University of Surrey, Guildford

Description of activity

Updated and delivered two lectures to module entitled “Carcinogenicity and Mutagenicity”:

“Oncogenes in experimental carcinogenesis”

“Genetic polymorphisms and risk assessment”

Outcome

Updated knowledge on these topics. Interacted with students, answering questions and encouraging discussion.

This experience is becoming increasingly unsatisfactory as the notice given gets shorter, allowing less time for updating the lectures and making it difficult to combine this with other activities, particularly as the module is no longer held at a venue on the University campus. Have decided to give it one more year and then decide whether to withdraw from the Programme.

Notes

Evidence: Invitation and module programme.

Register of Toxicologists classification: Teaching: postgraduate lecture

Credits claimed: 2

Date the activity started:	**04-Mar-14**	**Date the activity finished:**	**04-Mar-14**
Number of credits claimed:	**2**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic ✓ Professional □

Reflective note

Heading

Species Differences in the Carcinogenicity of Dichloromethane: An update

Please describe the learning activity and your reflection

In February 2014, [redacted] commissioned me to prepare a literature review on dichloromethane (DCM) and a commentary on unpublished studies [redacted] updating the information provided in a previous report submitted [redacted] in 2008.

I found that the current state of knowledge with respect to species differences in the carcinogenicity of DCM had not changed greatly since 2008. A thorough literature search revealed only 22 papers which met the criteria for inclusion in this review, and a number of these had only tangential relevance to the issue under consideration. The working hypothesis, that DCM undergoes metabolic activation mediated by nuclear GSTT1 and that species differences are a function of differences in the nuclear expression of this isoform, remains unproven. Furthermore, while the expression of GSTT1 in the nucleus may be key to the ability of DCM to undergo metabolic activation and induce DNA damage *in situ*, it should also be noted that DCM itself would also have to gain access to the nucleus in order for this mechanism to operate. This requires DCM to bypass CYP2E1-mediated metabolism in the extra-nuclear compartment and, in humans, to escape metabolism by the high level of modified GSTT1 expressed in erythrocytes.

What have you learned?

The most interesting developments over the last five years have been an increase, based both on theoretical considerations and epidemiological evidence, in discussion of the potential role of CYP2E1 in DCM toxicity and the emergence of data relevant to molecular changes which may occur in response to DCM treatment. The discussions on CYP2E1, while intriguing, have not yet led to a testable mechanism; technological developments in 'omics methodology, on the other hand, make this an obvious area for future effort.

Has this highlighted any future learning needs?

Evidence: Email correspondence. Notes and report held as confidential.

Actual number of hours spent: 52.5 hours.

Register of Toxicologists classification: Private study: journal reading

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**14-Feb-14**	**Date the activity finished:**	**07-Mar-14**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	✓	Academic	☐	Professional ☐

Reflective note

Heading

Review of amended version of Ethical Tissue application

Please describe the learning activity and your reflection

The applicant had submitted a revised version of this application, addressing the points I raised in my previous review. In particular, the person actually supervising the work is now correctly identified as Principal Investigator, the recruitment/consenting procedure is appropriate and properly described, the statistical tests to be performed are specified and supporting references are provided.

The application is now acceptable.

Comments

This was a case of supporting another researcher's work rather than gaining new knowledge about toxicology.

Notes

Evidence: Email correspondence. Notes and review held as confidential.

Actual number of hours spent: 1

Register of Toxicologists classification: Professional activity: review grant application

Credits claimed at rate of 1 per reflective note.

Date the activity started:	**12-Mar-14**	**Date the activity finished:**	**12-Mar-14**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	☐	Professional ✓

Activity

Title of activity

Meeting to learn about FSAS Enforcement/Official Controls activities

Venue

FSAS Offices, St Magnus House, Aberdeen

Description of activity

Having been asked to facilitate SFAC discussions on FSAS Enforcement/Official Controls activities, Carrie Ruxton and I had a meeting with Peter Midgeley of FSAS, who gave us a detailed tutorial addressing:

- Legislation
- What has to be done?
- Who does it?

This covered the scope of enforcement, as prescribed by Regulation EU 882/2004 and interpreted in the official Food and Feed Controls in Scotland. These cover food safety, nature, substance, quality, and traceability as well as the composition of food contact materials. All food enforcement activities in Scotland (apart from those requiring the presence of an Official Veterinarian and certain monitoring activities) are carried out by Local Authority Environmental Health Officers, who can take samples for analysis of biological and chemical contaminants, although the FSA is responsible for on-site monitoring including for marine biotoxins.

This was followed by a teleconference with Bill Adamson, an expert on the relevant legislation, who has been conducting a consultation on the powers of the FSA in relation to Official Controls.

Outcome

This meeting and teleconference provided me with the background knowledge I needed in order to be able to draft preliminary notes in support of SFAC's discussions on Enforcement/Official Controls in the lead-up to the vesting of the New Food Body for Scotland.

Notes

I learned a huge amount from this meeting as Peter is incredibly knowledgeable about all aspects of Enforcement and Official Controls. The main focus is, naturally, hygiene and the prevention of foodborne disease, but there are also very interesting elements relating directly to toxicology, including the issues of contaminants and food fraud.

Date the activity started:	**20-Mar-14**	**Date the activity finished:**	**20-Mar-14**
Number of credits claimed:	**2**	**Additional evidence:**	**No** (notes available on request)

Category: General Interest □ Academic □ Professional ✓

Reflective note

Heading

Participation in EFSA external review of scientific grants and procurement projects

Please describe the learning activity and your reflection

In response to an invitation from ICF GHK, I agreed to contribute to an external review of EFSA's scientific grants and procurement projects whose aim was to determine the impact of the grant and procurement projects, signed in 2009–2012 and completed by the end of 2013, on EFSA's task delivery. I agreed to provide feedback on my experiences and views, focussing on the project 'Preparatory work for the re-evaluation of aspartame' (contract reference: CT/EFSA/ANS/2011/03). This entailed completing an online questionnaire and participating in a telephone interview.

Comments

I was not sure I fitted into the classifications of organisations for this project since I am a self-employed sole trader (i.e. I operate as an individual consultant) so the questions about organisational structure and other research funding applications were not relevant. However, I was assured that the aim was to get a broad range of perspectives, and that it did not matter too much if not all the questions were relevant. I agreed to proceed on that basis and enjoyed interview, during which I was able to provide feedback from my perspective as an independent consultant in investigative toxicology.

N.B. This item of CPD relates to contribution of a toxicologist's perspective to wider discussions rather than acquiring new knowledge about toxicology.

Has this highlighted any future learning needs?

Evidence: Email correspondence and Topic Guide for interviews with beneficiaries and contractors.

Actual number of hours spent: 2

Register of Toxicologists classification: Professional activity: review grant application (this was the nearest category I could find to participating in a review of the actual funding process)

Credits claimed at the rate of 1 per reflective note.

Date the activity started:	**31-Mar-14**	**Date the activity finished:**	**31-Mar-14**
Number of credits claimed:	**1**	**Additional evidence:**	**Yes**

Category	General Interest	☐	Academic	☐	Professional ✓

Activity

Title of activity

Meeting to discuss possible collaboration on a textbook of Nanotoxicology

Venue

Edinburgh Napier University, Sighthill Campus, Edinburgh

Description of activity

Nicky McGirr (Commissioning Editor, Wiley-Blackwell, who worked with me on my textbook of Molecular and Cellular Toxicology, in press) and I visited Gary Hutcheson and Eva Malone at Edinburgh Napier University to discuss possible commissioning of a textbook of Nanotoxicology, to be written collaboratively by me and staff at Edinburgh Napier.

Topics under discussion included possible contributors and topics to be covered.

Outcome

This meeting consolidated my relationship with Edinburgh Napier University, leading to further discussions and agreement to participate jointly in HSAC Nanomaterials Working Group activities. The possibility of guest lecturing at Edinburgh Napier University was also raised, to be followed up in subsequent meetings.

Notes

All participants were enthusiastic about the idea of producing such a textbook, although the project was put on hold in the short term because Eva was soon to go on maternity leave.

Actual number of hours spent: 1

Register of Toxicologists classification: Education: attending meeting

Date the activity started:	**01-Apr-14**	**Date the activity finished:**	**01-Apr-14**
Number of credits claimed:	**1**	**Additional evidence:**	**No**

Category: General Interest □ Academic ✓ Professional □

Appendix 2

Summary

Category	Max. Pts	Items	Base Total	Pts Earned	
Work Based Learning	20.0	1	2.0	2.0	
Professional Activity	20.0	17	76.0	20.0	(*)
Formal/Educational	30.0	4	52.0	30.0	(*)
Self-directed Learning	10.0	1	10.0	10.0	
Other	10.0	1	1.0	1.0	

(*) *Indicates categories with capped totals*

Total Number of Points earned over the period: 63.0

Recorded Entries

2015-03-31 **Professional Activity: Networking with other professionals**

Meeting with Emma Stuart (Defra), Gary Hutchison (Head of School) and Nanotoxicology team at Napier University to discuss progress in Napier nanotoxicology projects and future interactions with Defra. For details, see attached Activity Record.

Files: `1415-028 CPD activity proforma Napier-Defra nanotoxicology meeting.docx`

Review: Opportunity to consolidate relationship with team at Napier as I move towards taking up an ad hoc lecturing position in Toxicology in April. Also to get to know Emma (recently appointed as secretary to HSAC) better and get an update as to what is going on in Defra's nanotoxicology programme.

3 Hours, 3.0 Base Point(s)

2015-03-23 **Professional Activity: Technical Group Membership**

Member of Appeals Panel on classification of Scottish shellfish harvesting areas, 2014/15 (held at FSA Scotland, Aberdeen). Panel task was to evaluate appeals lodged in response to classifications for the period April 2015-March 2016 (based on data from 2014 and January-March 2015). This involved consideration of E.coli counts from the monthly monitoring programme in the light of sanitary surveys and explanations from applicants relating to specific issues and incidents. Some data on marine biotoxins were also presented.
Hard copy evidence: Annotated letter of invitation and Guidance for Panel Members, available upon request.

Review: Excellent opportunity to get hands-on experience of the shellfish harvesting area classification system, which I have heard about in SFAC and COT meetings but in which I had not previously been personally involved. Panel comprised three members (i.e. me plus two others) and was attended by an industry representative. The discussion was objective but very amicable and it was useful to hear input from a panel member who is an experienced Environmental Health Officer. The outcomes were a mixture of successful appeals, partial successes and rejections.

3 Hours, 6.0 Base Point(s)

2015-03-23 **Professional Activity: Networking with other professionals**

Participation in stakeholder workshop at FSA Scotland, Aberdeen: "Using science to deliver food we can trust: Developing the FSA Science, Evidence and Information Strategy 2015-20". Following an introduction and brief brainstorming session, small groups were invited to come up with specific suggestions for projects which could be considered as part of this strategy. I worked with Craig Brown (Chair of SFELC) and Marianne James (FSAS); we suggested two projects (i) to clarify the (assumed) increased susceptibility of the elderly to foodborne diseases (both microbial and chemical-related) in the light of anticipated demographic changes in the UK population in the coming years and (ii) to use IT approaches (e.g. Google analytics) to identify emerging food authenticity issues.

Hard copy evidence: Annotated agenda and background document, available upon request.

Review: Excellent opportunity to find out about and contribute as a Toxicologist to the development of the FSA Science, Evidence and Information Strategy 2015-20. Particularly pleasing to have this opportunity because I was not impressed with the Framework document as presented to SFAC at its March meeting (and subsequently to the FSA Board). Also because this was a way of making sure I stay on the radar as FSAS closes down and FSS is vested on 1st April 2015. Small group discussion was interesting and informative (I had never heard of Google analytics or what it can do). It was also satifying to be able to to point Marianne, who has an interest in Third World development projects, towards the Christian Aid "In Their Lifetime" programme.

3 Hours, 3.0 Base Point(s)

2015-03-16 **Professional Activity: Lecturing or Teaching**

Lectures to University of Surrey MSc in Applied Toxicology. Lecture titles "Polymorphisms in Risk Assessment" and "Oncogenes in Experimental Carcinogenesis". Spent some time updating the Polymorphisms lecture (Oncogenes was pretty well up to date). Only one major development since last time I presented these topics: A large population-based case-control study on bladder cancer (done as part of the EPIC programme) has failed to indicate any effect of slow acetylator phenotype on susceptibility. This may trigger a re-evaluation of the role of the NAT2 polymorphism in bladder cancer susceptibility, although in my view there is currently no reason to reject the existing mechanistic explanation of susceptibility to bladder carcinogenesis.

Files: `1415-026 LAS polymorphisms 2015.pptx`
`1415-027 LAS oncogenes 2015.pptx`

Review: Lectures were well received although group this year was very small (only ten students). Contribution much appreciated by course leader especially as it was done at very short notice.

2 Hours, 4.0 Base Point(s)

2015-03-10 **Other: Other**

"Job talk" to Soroptimists International club of West Lothian. Introduced the subject of Toxicology using Fatal Accident Inquiry into death of Danielle Welsh (paracetamol overdose) and dioxin poisoning of Viktor Yuschenko as examples. Summarised my career history and explained how I came to be working as an Independent Consultant in Investigative Toxicology. Presented some of the questions I have been asked to address as a consultant, and finished off by showing off my entry in Amazon for the textbook I published in 2014.

Files: `1415-025 Job talk (10-Mar-15).pptx`

Review: This presented the challenge of working out how to present Toxicology to a lay audience in a way that made it both interesting and comprehensible. It was a good opportunity to review what I actually do and how it can be explained in lay terms. The talk was well received with a lot of interest. A number of audience members said they would be giving up decaffeinated coffee!

1 Hour, 1.0 Base Point(s)

2015-03-04 **Professional Activity: Networking with other professionals**

Attended Food Standards Scotland (FSS) Stakeholder Engagement Meeting. Presentations by Ross Finnie (FSS Chair Designate), Morris Fraser (New Food Body Team), Katherine Goodwin (Head of Communication and Marketing), Geoff Ogle (Chief Executive) and Ian McWatt (Director of Operations). Covered various aspects of the future remit and strategy for FSS.
Hard copy evidence: Annotated Agenda, available upon request.

Files: `1415-024 FSS Stakeholder Event joining instructions.pdf`

Review: Good opportunity to see how the plans for FSS are being presented to the wider stakeholder community. Chance to consolidate links with other stakeholders, especially Robbie Beattie (Scientific and Environmental Services Manager, City of Edinburgh Council) and Mary Lawton (Scottish Food and Drink Federation). Mary agreed to add my name to the mailing list for the Cross Party Group on Food, which will be a valuable way of maintaining my networking links with the Scottish food community after SFAC is disbanded.

3 Hours, 3.0 Base Point(s)

2015-02-20 **Professional Activity: Networking with other professionals**

Attended Scottish Food Enforcement Liaison Committee (SFELC) on behalf of Bernard Forteath, SFAC representative, who was unable to be present. For details of the meeting, see Agenda (attached) and Minutes (hyperlinked). Gained further insight regarding progress on the move towards vesting of Food Standards Scotland (only 5 weeks away now!). Also contributed to discussions on future remit of SFELC under new regime. Raised point that, with disbanding of SFAC, SFELC will have no independent advisory input. Committee agreed to look into ways of making an appointment to fulfil this remit and ensure they have insight regarding discussions at UK FSA Board, since these will still have significant impact in Scotland.
Hard copy evidence: Hand written notes, available upon request.
Please note that the generic SFELC URL has been uploaded because the approved minutes of this meeting will not be available on the website until after my CPD year closes. However, the relevant minutes should be easy to find via this site once they have been released.

https://www.food.gov.uk/enforcement/enfcomm/sfelc

Files: `1415-023 Agenda - SFELC - 20 February 2015.pdf`

Review: Good opportunity to consolidate links with Enforcement community made at previous SFELC meeting in October and keep up to speed with developments as Vesting Day gets nearer. This was the last time an SFAC member would be at SFELC!

3 Hours, 3.0 Base Point(s)

2015-01-14 **Professional Activity: Technical Group Membership**

HSAC members were invited to participate in a ring test to help in evaluating a proposed online tool, SciRAP (Science in Risk Assessment and Policy). SciRAP is a web-based reporting and evaluation resource developed to facilitate and increase the use of peer-reviewed toxicity and ecotoxicity literature in regulatory risk assessment of chemicals. For full details of my participation and evaluation see attached Reflective Note.

http://www.scirap.org/

Files: `1415-022 CPD reflective note SciRAP ring test.docx`

Review: See attached Reflective Note. Need to keep an eye on future developments in SciRAP and see whether or not the tool gains acceptance.

1 Hour, 2.0 Base Point(s)

2015-01-07 **Work Based Learning: Review of Case Studies and Literature**

Research in support of EFSA Commission "Glossary for lay audiences on scientific terms used in risk assessment" (NP/EFSA/COMMS/2014/01). For details and evaluation see attached Reflective Note.

http://www.efsa.europa.eu/en/efsajournal/pub/2664.htm

Files: `1415-021 CPD reflective note EFSA Glossary.docx`

Review: This was an invaluable opportunity to review my understanding of the strict meanings of a range of terms I use all the time but whose definitions I have never really checked. It was astonishing to discover that many commonly-used scientific terms are not rigorously defined anywhere - try looking for a formal definition of ?genotyping?! Note to self: In future, be more conscientious in making sure I know what terms really mean!

1 Hour, 2.0 Base Point(s)

2014-11-29 **Formal/Educational: Writing Articles or Papers**

Publication of article as a co-author.
"Differences between murine arylamine N-acetyltransferase type 1 and human arylamine N-acetyltransferase type 2 defined by substrate specificity and inhibitor binding" Laurieri, N., Kawamura, A., Westwood, I. M., Varney, A., Morris, E., Russell, A. J., Stanley, L. A. and Sim, E. (2014) BMC Pharmacol. Toxicol. 15:68.
The mouse has three arylamine N-acetyltransferase genes, (MOUSE)Nat1, (MOUSE)Nat2 and (MOUSE)Nat3. These are believed to correspond to (HUMAN)NAT1, (HUMAN)NAT2 and NATP in humans. (MOUSE)Nat3 encodes an enzyme with poor activity and human NATP is a pseudogene. (MOUSE)Nat2 is orthologous to (HUMAN)NAT1 and their corresponding proteins are functionally similar, but the relationship between (MOUSE)Nat1 and (HUMAN)NAT2 is less clear-cut. Three non-catalytic residues within (HUMAN)NAT1*4 (F125, R127 and Y129) contribute both to substrate recognition and inhibitor binding by participating in distinctive intermolecular interactions and maintaining the steric conformation of the catalytic pocket. These active site residues contribute to the definition of substrate and inhibitor selectivity, an understanding of which is essential for facilitating the design of second generation (HUMAN)NAT1-selective inhibitors for diagnostic, prognostic and therapeutic purposes. In particular, since the expression of (HUMAN)NAT1 is related to the development and progression of oestrogen-receptor-positive breast cancer, these structure-based tools will facilitate the ongoing design of candidate compounds for use in (HUMAN)NAT1-positive breast tumours.

http://www.biomedcentral.com/2050-6511/15/68

Files: `1415-020 Laurieri et al (2014) BMC Pharm Tox 15, 68.pdf`

Review: Opportunity for continued interaction with Oxford group. Chance to update my knowledge concerning the enzymology of NATs and particularly structure-activity relationships.

1 Hour, 2.0 Base Point(s)

2014-11-18 **Professional Activity: Technical Group Membership**

Attended Metals Environmental Risk Assessment Guidance (MERAG) workshop to review and develop MERAG Factsheets. For details and evaluation, see attached Agenda and Activity report. Hard copy evidence: Hand written notes, available upon request.

http://www.icmm.com/page/1185/metals-environmental-risk-assessment-guidance-merag

Files: `1415-017 Agenda MERAG Science Workshop.pdf`
`1415-018 CPD activity MERAG Workshop.docx`
`1415-019 HSAC comments on MERAG Factsheets.docx`

Review: I attended this workshop as a representative of HSAC. It was an excellent opportunity to extend my (rather sketchy) understanding of the ecotoxicology of metals. I was also able to offer constructive criticism in ?intelligent ignoramus? mode as well as highlighting one or two specific points (e.g. differing uses of the term ?bioavailability?; discussion of hormesis without introducing the concept of non-monotonic dose response curves). The group was extremely friendly and collegial; I thoroughly enjoyed the networking and opportunity to make new contacts in a field where I did not previously know many people. I also acted as HSAC rapporteur for this activity and drafted the HSAC comments which were forwarded to MERAG on 12th December (attached).

10 Hours, 20.0 Base Point(s)

2014-10-10 **Professional Activity: Networking with other professionals**
Attended Scottish Food Enforcement Liaison Committee (SFELC) on behalf of Bernard Forteath, SFAC representative, who was unable to be present. For details of the meeting, see Agenda (attached) and Minutes (hyperlinked). Gained further insight regarding progress on the move towards vesting of Food Standards Scotland. Shared SFAC views on draft "Becoming a Good Food Nation" report
Hard copy evidence: Hand written notes, available upon request.

https://www.food.gov.uk/enforcement/enfcomm/sfelc/sfelcmeeting/sfelc-mins-oct-2014

Files: `1415-016 Agenda - SFELC 10 OCT 2014.pdf`

Review: Good opportunity to forge closer links with the Enforcement community; it was particularly useful to make contact with Mary Lawton (Scottish Food and Drink Federation). Learnt more about the practicalities of Enforcement in the field, both in the context of food hygiene and authenticity, and resource implications thereof.

3 Hours, 3.0 Base Point(s)

2014-10-03 **Professional Activity: Being a Referee for a Journal**
Reviewed manuscript for Human and Experimental Toxicology. Opportunity to look at new data regarding the potential chemopreventive effects of curcumin, undertake critical review and offer constructive criticism.
Hard copy evidence: Hand written notes (confidential, but available upon request).

Files: `1415-015 Review .pdf`

Review: Did not alter my view that chemoprevention with curcumin (or any other individual dietary component) is not the answer!

1 Hour, 2.0 Base Point(s)

2014-09-11 **Professional Activity: Being a Referee for a Journal**
Review of resubmitted version of for Human and Experimental Toxicology. No new information, but further opportunity to undertake critical review and offer constructive criticism.
Hard copy evidence: Hand written notes (confidential, but available upon request).

Files: `1415-014 Review .pdf`

Review: Rather disappointing as my specific comments had not been implemented.

1 Hour, 2.0 Base Point(s)

2014-09-10 **Formal/Educational: Attendance at Conferences or Scientific Meetings**
50th Congress of the European Societies of Toxicology, EuroTox, Edinburgh 2014. For details of sessions attended, see attached Activity Record.
Hard copy evidence: Programme (CPD0032), Abstracts (Toxicology Letters 229S; CPD0033), Mini-programme marked up with sessions attended.

http://www.eurotox2014.com/

Files: `1415-012 Eurotox certificate of attendance.pdf`
`1415-013 Activity - EuroTox 2014.docx`

Review: Comprehensive overview of current issues in Toxicology, at least as viewed from Europe. Excellent networking opportunity. Great to see so many people in Edinburgh! Did not learn much that was new to me from scientific presentations, possibly because a number of them were delivered by people with whom I have been working so their material was already familiar to me. Changed strategy on Days 2/3 and went to more regulatory sessions, which I found more informative. Highlights were Nick Buckley?s talk on attempted suicides with pesticides in Third World (excellent talk, disappointingly poorly attended) and Aldert Piersma?s very lucid presentation on NMDRCs.

17 Hours, 34.0 Base Point(s)

2014-08-11 **Professional Activity: Being a Referee for a Journal**

Reviewed manuscript [redacted] for Human and Experimental Toxicology. Paper addressed effects of doxorubicin and silymarin on telomerase activity and lipid peroxidation. Opportunity to undertake critical review and offer constructive criticism.

Hard copy evidence: Hand written notes (confidential, but available upon request).

Files: `1415-011 Review [redacted].pdf`

Review: Opportunity to apply critical skills to what turned out to be rather a weak paper. Did not learn much that was new/of interest.

1 Hour, 2.0 Base Point(s)

2014-06-19 **Professional Activity: Networking with other professionals**

Alumni event organised by Department of Biochemistry, University of Oxford. Presentations by Sue Hartley, Director of York Environmental Sustainability Institute, and Alison Woollard, Associate Professor, Department of Biochemistry. Made personal contact with Sue Hartley and discussed possibility of interacting on environmental issues. Met two undergraduates planning iGEM entry on bioremediation of dichloromethane and offered to help them with advice on metabolism and toxicology.

Hard copy evidence: Invitation and meeting programme, available upon request.

Files: `1415-010 Oxford Biochemistry Alumni Event (19-Jun-14).pdf`

Review: Opportunity for networking with other Biochemistry graduates. Made/renewed contacts including chance to make new link with Sue Hartley and offer help to up and coming undergraduates.

1 Hour, 1.0 Base Point(s)

2014-05-23 **Self-directed Learning: Other**

Publication of textbook "Molecular and Cellular Toxicology" by Wiley Blackwell. Consummation of several years' work including planning, background reading and writing.

Hard copy evidence: Copy of the book, available upon request.

http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1119952069,subjectCd-MDM0.html

Files: `1415-009 Molecular and Cellular Toxicology - Amazon entry (23-Jun-14).pdf`
`1415-008 Molecular and Cellular Toxicology - Table of contents (23-May-14).pdf`

Review: A huge amount of work but an excellent way of updating my knowledge in a number of areas and making contacts with colleagues across the world. Hopefully it will be useful to final year undergraduate and postgraduate students studying toxicology. Also useful as a personal aide memoir for things I theoretically know but can't remember the details!

10 Hours, 10.0 Base Point(s)

2014-05-13 **Formal/Educational: Writing Articles or Papers**

Publication of research article as a co-author.
"From arylamine N-acetyltransferase to folate-dependent acetyl CoA hydrolase: Impact of folic acid on the activity of (HUMAN)NAT1 and its homologue (MOUSE)NAT2"
Nicola Laurieri, Julien Dairou, James E. Egleton, Lesley A. Stanley, Angela J. Russell, Jean-Marie Dupret, Edith Sim and Fernando Rodrigues-Lima. PLoS ONE 9(5): e96370. doi:10.1371/journal.pone.0096370.
Acetyl Coenzyme A-dependent N-, O- and N,O-acetylation of aromatic amines and hydrazines by arylamine N-acetyltransferases is well characterised. Here, we describe experiments demonstrating that human arylamine N-acetyltransferase Type 1 and its murine homologue (Type 2) can also catalyse the direct hydrolysis of acetyl Coenzyme A in the presence of folate. This folate-dependent activity is exclusive to these two isoforms; no acetyl Coenzyme A hydrolysis was found when murine arylamine N-acetyltransferase Type 1 or recombinant bacterial arylamine N-acetyltransferases were incubated with folate. These data, together with the characterisation of a naphthoquinone inhibitor of folate-dependent acetyl Coenzyme A hydrolysis by human arylamine N-acetyltransferase Type 1/ murine arylamine N-acetyltransferase Type 2, open up a range of future avenues of exploration, both for elucidating the developmental role of these enzymes and for improving chemotherapeutic approaches to pathological conditions including estrogen receptor-positive breast cancer.

http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0096370

Files: `1415-007 Laurieri et al (2014) PLOS One 9, e96370.pdf`

Review: Opportunity to work on a top-quality publication with former colleagues and update knowledge about the mechanism and proposed role of (HUMAN)NAT1 and (MOUSE)NAT2. Chance to contribute to further thinking about possible endogenous roles for NATs, as I (and others) initially suggested nearly 20 years ago!

1 Hour, 2.0 Base Point(s)

2014-04-29 **Formal/Educational: Attendance at Conferences or Scientific Meetings**

Attended BTS Annual Congress at Plaisterers' Hall, London. Attended sessions on "Evolution of Toxicology and the Impact on Chemical Risk Assessment" and "Development and Safety of Stem Cell Therapies" plus Hot Topic Lecture on Environmental Endocrine Disruptors, Paton Prize Lecture and BTS AGM. These provided an update on current state of play in these areas of toxicology plus opportunity for networking. Also represented the UKRT at the BTS AGM.
Hard copy evidence: Meeting Programme and Abstracts, available upon request (CPD0031).

Files: `1415-006 BTS Annual Congress Scientific Programme.pdf`
`1415-005 BTS Certificate of Attendance.pdf`

Review: Useful meeting though rather rushed as they went for a two half-day format rather than the usual three days (to allow people to attend EuroTox). Less opportunity for networking than usual. Plenary lectures (Richard Sharpe and Colin Berry) were outstanding. Was not so sure about relevance of Stem Cell Therapies session.

7 Hours, 14.0 Base Point(s)

2014-04-25 **Professional Activity: Being a Referee for a Journal**

Reviewed manuscript [redacted] for Human and Experimental Toxicology. Learned about a category of CYP inducers of which I was not previously aware (ionic liquids). Opportunity to undertake critical review and offer constructive criticism. Identified the need for major changes to the paper (with possible further experiments) and provided feedback to the Editor and authors accordingly.
Hard copy evidence: Hand-written notes (confidential, but available upon request).

Files: `1415-004 Review [redacted].pdf`

Review: Useful in learning about a new facet of CYP induction and was a useful mental exercise in identifying issues with the work presented along with actions the authors could take to resolve these.

1 Hour, 2.0 Base Point(s)

2014-04-14 **Professional Activity: Other**

Member of Advisory Committee on Hazardous Substances; attended meetings on 23-Sep-14 and 09-Dec-14 (missed two meetings due to clashes with SFAC).
Contributed to working group activities on Nanomaterials (met with Gary Hutchison on 02-Jun-14 and 27-Feb-15) and Endocrine Disrupting Chemicals.
Hard copy evidence: Handwritten notes in personal notebooks, available upon request.

https://www.gov.uk/government/groups/hazardous-substances-advisory-committee

Files: `1415_003 Arwyn Davies letter (HSAC).pdf`

Review: Was flattered to be offered (unique) third term as a member of ACHS/HSAC. Had to have rather "light-touch" involvement because this was also the last year of SFAC's existence, so SFAC meetings had to be prioritised, but was able to contribute to discussions at meetings I did attend and sent written comments when absent. Contributed to review of NANoREG report and EU Public Consultation on Defining Criteria for Identifying Endocrine Disruptors.... (contribution on "Identification and evaluation of EDCs in long term animal tests", which had to be cut down due to word limit), providing me with the opportunity to update my knowledge concerning these "hot topics".

5 Hours, 5.0 Base Point(s)

2014-04-14 **Professional Activity: Other**

Member of Scottish Food Advisory Committee. Attended meetings on 03-Jun-14, 02-Sep-14, 28-Oct-14, 20-Jan-15 and 17-Mar-15. Also closed meeting on 15-Jul-14 to review status of move to Food Standards Scotland. Provided toxicologist's viewpoint of various issues including control measures for transmissible spongiform encephalopathies (e.g. BSE), meat hygiene controls and "risky" foods (raw milk, rare burgers). Also, most importantly, contributed to planning of the role and remit of the New Food Body, Food Standards Scotland (FSS).
Hard copy evidence: File containing personal notes, available upon request.

https://www.food.gov.uk/scotland/about-fsa-scotland/advisorycommittee

Files: `1415_002 Michael Matheson letter (SFAC).pdf`

Review: My main role on SFAC this year (apart from generally challenging thinking at UK Board and Scottish government levels) has been to highlight the need for FSS to have access to all the expert scientific research and advice that are currently available to the FSA in London, thus ensuring that its work is always soundly based on strong scientific evidence.

5 Hours, 5.0 Base Point(s)

2014-04-14 **Professional Activity: Professional Body Involvement**

Vice-Chair, Panel of the UK Register of Toxiologists.
Reviewed applications and attended meetings on 07-May-14, 24-Sep-14 and 02-Feb-15.
Skyped with Rob Chilcott (Chair) on 30-Apr-14, 27-Nov-14 and 10-Feb-15.
Worked on website wording with Cliff Collis on 19-Jun-14.
Hard copy evidence: Hand written notes in personal notebooks, available upon request.

http://www.toxreg.org.uk/

Files: `1415_001 UKRT Minutes (30-Mar-12).pdf`

Review: Enhanced relationships with other toxicologists; opportunity to contribute to the establishment and maintenance of standards in the profession of toxicology. This year I worked particularly hard to try to smooth the transition to the SB online registration scheme and to promote better CPD recording across the register.

5 Hours, 10.0 Base Point(s)

Activity

Title of activity

50th Congress of the European Societies of Toxicology, EuroTox, Edinburgh 2014

Venue

Edinburgh International Conference Centre

Description of activity

Attended Opening/Closing Ceremonies and sessions on:

- Toxicology: Past successes, present realities and future challenges (Ruth Roberts)
- The application of transgenic animal models to elucidate human pathways of drug metabolism and chemical toxicity (Roland Wolf)
- MicroRNA profiling for biomarker discovery and tissue injury characterisation (Workshop)
- Advancing scientific innovation towards improved public health (Syril Pettit)
- New approaches to characterising uncertainty in hazard and risk assessment (Workshop)
- Adverse drug reactions: from man to molecule and back again (Kevin Park)
- Nanotoxicology/nanosafety (Workshop)
- Are non-monotonic dose responses at low dose levels toxicologically relvant (SOT/EUROTOX debate)
- Translational toxicology in the developing world (Nick Buckley)
- Aggregate and cumulative risk assessment of chemicals: The example of pesticides (Workshop)
- From the science of nanotoxicology to regulation (Workshop)
- Endocrine disruption: Challenges in human health risk assessment using the example of Bisphenol A (Workshop)

Outcome

Comprehensive overview of current issues in Toxicology, at least as viewed from Europe. Excellent networking opportunity.

Notes

Great to see so many people in Edinburgh! Did not learn much that was new to me from scientific presentations, possibly because a number of them were delivered by people with whom I have been working so their material was already familiar to me. Changed strategy on Days 2/3 and went to more regulatory sessions, which I found more informative. Highlights were Nick Buckley's talk on attempted suicides with pesticides in Third World (disappointingly poorly attended) and Aldert Piersma's very lucid presentation on NMDRCs.

Date the activity started: 07-Sep-14 **Date the activity finished: 10-Sep-14**

Number of credits claimed: 17 hours (34 SB credits) **Additional evidence: Yes**

Category: General Interest ✓ Academic □ Professional □

Activity

Title of activity

Science Review Workshop for the Metals Environmental Risk Assessment Guidance (Merag) Project

Venue

Thistle Hotel – Marble Arch, London

Description of activity

The Metals Environmental Risk Assessment Project group (MERAG) is working under the auspices of the International Council on Mining and Metals (ICMM) and the European Association of Metals, EUROMETAUX, to update is series of factsheets on the risk assessment of metals in the environment. The aim is to develop documents which have worldwide relevance for those working in the metals and mining industries, although it is recognised that these may not be applied in exactly the same way across the whole world.

The environmental risk assessment of metals is particularly challenging because metals exist in numerous physical forms, are present at measurable levels in the environment even in the absence of human activity and are subject to homeostatic regulation in biological systems. In conducting an environmental risk assessment of metals it is important to correct for differing bioavailability in different ecosystems and to ensure that ultimate fates are accurately modelled.

On 17th and 18th November 2014 MERAG held a workshop in London to review the latest set of draft factsheets. One of the reasons for this was to include participants from outside Europe since it was recognised that the factsheets, having been written by the Belgian consultancy company Arche and sponsored by, among others, Defra had a predominantly European focus. To that end, several US participants played key roles in the workshop.

MERAG has drafted a total of eight factsheets, but the workshop focused on five of these:

- Fact sheet 2 – Exposure assessment
- Fact sheet 3 – Effects assessment
- Fact sheet 5 – Bioavailability: water and sediment
- Fact sheet 6 – Bioavailability: soils
- Fact sheet 8 – Classification

The workshop was timed to allow MERAG to contribute to two key reviews of environmental risk assessment guidelines, by the OECD and ECHA, both of which will take place in 2015. It is also timely as the question of environmental risk assessment of mixtures becomes increasingly pressing.

MERAG requested comments on the factsheets by 12th December 2014. The next step in this process will be to contribute to the OECD debate on bioavailability assessment, planned for early 2015, so comments on the bioavailability factsheets are required as a matter of some urgency, whereas the factsheets involving exposure assessment are likely to be redrafted over a longer timescale. The factsheet on classification is on hold pending the resolution of various issues regarding the relationship between the science and politics which are currently under debate at UN level.

Outcome

I attended this workshop as a representative of HSAC. It was an excellent opportunity to extend my (rather sketchy) understanding of the ecotoxicology of metals. I was also able to offer constructive criticism in "intelligent ignoramus" mode as well as highlighting one or two specific points (e.g. differing uses of the term "bioavailability"; discussion of hormesis without introducing the concept of non-monotonic dose response curves). The group was extremely friendly and collegial; I thoroughly enjoyed the networking and opportunity to make new contacts in a field where I did not previously know many people.

Notes

I also acted as HSAC rapporteur for this activity and drafted the HSAC comments which were forwarded to MERAG on 12th December (attached).

Date the activity started:	**17-Nov-14**	**Date the activity finished:**	**18-Nov-14**
Number of credits claimed:	**10 hours (20 SB credits)**	**Additional evidence:**	**Yes**

Category: General Interest □ Academic □ Professional ✓

Reflective note

Heading

Glossary for lay audiences on scientific terms used in risk assessment (NP/EFSA/COMMS/2014/01)

Please describe the learning activity and your reflection

The call for this project was issued by EFSA in response to an opinion from the EFSA Scientific Committee (see hyperlink). The main objective of this project was to create a glossary of scientific terms frequently used in the European Food Safety Authority's (EFSA) risk assessment work in order to:

- Enhance the coherence, accessibility and clarity of EFSA's communications
- Communicate in a meaningful way to lay audiences with an interest in EFSA's work.

The remit was extended to include development of two glossaries, one containing formal scientific definitions and one containing definitions comprehensible to lay people. Approximately 300 terms commonly used in risk assessment (biological and chemical) were identified collaboratively by EFSA and the project team (Carrie Ruxton and LAS). The remainder of the project was divided into three main tasks: identifying "Context Examples" (CR and LAS), finding authoritative scientific definitions for each term (mainly LAS) and creating lay definitions for each term (mainly CR).

EFSA specified certain sources for the scientific definitions, the main one being the IPCS Glossary from "Principles and Methods for the Risk Assessment of Chemicals in Food" (Environmental Health Criteria 240), but despite this it was extremely difficult to find proper formal definitions for many of the terms chosen. The process necessitated a great deal of searching and evaluating the authoritativeness of different definitions. In the event definitions were found for the majority of the terms, but not by any means for all of them.

What have you learned?

This was an invaluable opportunity to review my understanding of the strict meanings of a range of terms I use all the time but whose definitions I have never really checked. It was astonishing to discover that many commonly-used scientific terms are not rigorously defined anywhere - try looking for a formal definition of "genotyping"!

Has this highlighted any future learning needs?

In future, be more conscientious in making sure I know what terms really mean!

Actual number of hours spent: 143

Credits claimed at rate of 1 hour (2 SB credits) per reflective note.

Date the activity started:	**09-Apr-14**		**Date the activity finished:**	**07-Jan-15**	
Number of credits claimed:	**1**		**Additional evidence:**	**N/A**	
Category	General Interest	☐	Academic	☐	Professional ✓

Reflective note

Heading

SciRAP ring test

Please describe the learning activity and your reflection

HSAC members were invited to participate in a ring test to help in evaluating a proposed online tool, SciRAP (Science in Risk Assessment and Policy). SciRAP is a web-based reporting and evaluation resource developed to facilitate and increase the use of peer-reviewed toxicity and ecotoxicity literature in regulatory risk assessment of chemicals. The intention is to bridge the gap between academic research and chemicals regulation and policy.

Participants in the study were asked to use the tool to review three toxicology papers in the context of their reliability and relevance for human risk assessment. The tool involves three tiers:

- Tier 1: Preliminary assessment of reliability
- Tier 2: Detailed evaluation

SciRAP also provides guidance for evaluating a study's relevance. However, participants were not asked to evaluate the relevance of the three studies in this exercise. Since relevance is context dependent it is not possible to evaluate studies outside the context of an actual risk assessment providing more coherent information about the substance such as exposure and kinetics. However, participants were asked to read through the criteria proposed for evaluating relevance and provide your feedback in the online questionnaire.

What have you learned?

- Tier I: I found that the criteria proposed were fine as long as they were applied judiciously, but I think there is the risk that a lot of studies would be rejected at this stage because of minor omissions which could probably be resolved in correspondence with the authors.
- Tier II: The criteria are, on the face of it, appropriate but they do not seem to be ranked according to importance. Thus a few minor omissions in the experimental detail can lead to the appearance of a lot of red/amber in the output, even for generally well-conducted and otherwise reliable studies.

For the reasons outlined above, I found the tool frustrating because there seemed to be very little difference in the output between Study 1, which I considered to be a well-conducted, reliable study and Studies 2 and 3, which are weaker (although they could probably still be used as part of a weight-of-evidence approach if the appropriate caveats were applied).

I found the relevance criteria to be all right as far as they went, but they were rather limited in scope and did not allow for a very sophisticated analysis of relevance.

Additional criteria I would add are:

- Is the mode of action being investigated known to operate in humans?
- Is the compound known to be subject to species-specific metabolism, and does this involve detoxification or metabolic activation?

- Are the endpoints being measured functionally relevant or are they just proxies for actual toxicological effects?

Regarding guidance which might be needed to facilitate the use of the SciRAP tool and criteria, I am not sure about the need for more guidance but the tool certainly needs an option for "not stated" for each criterion, at least in Tier II. The fact that a particular factor is not mentioned in a paper does not necessarily mean that it was not addressed/considered/included in the experimental design – lack of space in many journals precludes the presentation of comprehensive study details. The situation would, of course, be different if the tool was being used to evaluate a GLP study report which should include everything.

The user questionnaire included a question about whether the SciRAP tool was "better than", "the same as" or "not as good as" the current approach in terms of dependence on expert judgement. I found this question difficult to answer since I was unclear as to what was meant by "better" in this context. The tool allows individuals with little toxicological expertise to undertake an evaluation (therefore less dependent on expert judgement), but it does not allow an individual with a lot of expertise to use this and express a considered view about the merits of a study under consideration. To put it another way, it does not allow for either subtlety or sophistication!

Has this highlighted any future learning needs?

Keep an eye on future developments in SciRAP and see whether or not the tool gains acceptance.

Actual number of hours spent: 3

Credits claimed at rate of 1 hour (2 SB credits) per reflective note.

Date the activity started: **14-Jan-15** **Date the activity finished:** **14-Jan-15**

Number of credits claimed: **1 hour (2 SB credits)** **Additional evidence: N/A**

Category General Interest ☐ Academic ☐ Professional ✓

Activity

Title of activity

Meeting with Emma Stuart (Defra), Gary Hutchison (Head of School) and Napier University Nanotoxicology team.

Venue

Napier University, School of Life, Sport & Social Sciences, Sighthill Campus, Edinburgh

Description of activity

Meeting to discuss progress in Napier nanotoxicology projects and future interactions with Defra.

Outcome

Opportunity to consolidate relationship with team at Napier as I move towards taking up an *ad hoc* lecturing position in Toxicology in April. Also to get to know Emma (recently appointed as secretary to HSAC) better and get an update as to what is going on in Defra's nanotoxicology programme.

Notes

Discussed a proposed HSAC paper updating the position on nanomaterials, for which Gary had volunteered me in my absence (thanks, Gary….).

Gary showed us around the Napier facilities, including the toxicology research labs, respirometry lab, environmental chamber (for determining volunteers' responses to stress in different external temperature conditions), marine tanks (for exposing marine organisms e.g. sea anenomies to substances under controlled sea-like conditions) and the nursing simulation suite (not really Toxicology-related, but very interesting!).

Dennis (post-doc) explained his ongoing respirometry study addressing the effects of nanomaterials on processing micro-organisms in sewage sludge (artificial or collected from sewage processing plants).

Dr Eva Malone described her work characterising the effects of nanomaterials on neutrophils and her culture technique using human primary neutrophils maintained in the presence of autologous human serum.

Gary, Emma and I discussed possible future collaborations to address the high level of E.coli O157 in Scottish soils and I offered to put the team in touch with Food Standards Scotland should there be interest in pursuing this. We also noted Gary's interest in using humans stem cells for developmental toxicity and I informed him of a Horizon 2020 bid I was involved in which proposes to develop such models using induced pluripotent stem cells for this purpose. I will keep him posted on the progress of this bid with a view to future collaboration.

Date the activity started:	31-Mar-15	**Date the activity finished:**	31-Mar-15
Number of credits claimed:	3 hours (3 SB credits)	**Additional evidence:**	Yes

Category:	General Interest	□	Academic	□	Professional ✓