Report from the General Assembly in Athens

Changes to the Executive Committee

The 24th meeting of the Eurachem General Assembly was held on 21 and 22 May 2008 in Athens, Greece. The meeting featured lively discussion on many issues of interest. Elections were held for a number of places on the Executive Committee. Prof Miloslav Suchanek (Czech Republic) was elected as Vice-chair, with Prof Wolfhard Wegscheider (Austria), the outgoing Past chair, retaining his place on the Executive. Two new faces were elected to the Executive – Dr Bertil Magnusson (Sweden) and Dr David Milde (Czech Republic). Dr Evangelos Bakeas (Greece) took over as Secretary, and Dr Lorens Sibbesen joins the Executive as convener of the Method Validation Working Group.

Activities of the Working Group

The revived E&T WG has 24 members (15 attended the meeting in Athens May 2008) from 18 countries with IRMM and Eurolab Germany represented. Most of the WG effort this year was organising and delivering, with the Association of Greek Chemists, the successful Metrology in Chemistry Workshop held in Athens, May 2008. The workshop aimed to introduce the key aspects of metrology in chemistry and provide an opportunity to work through some practical examples. The 70 delegates, from a range of disciplines, gave very positive feedback.

The aims of the WG and those of TrainMic and AcadeMiC are complementary and the groups work in parallel. The second joint AcadeMiC/Eurachem summer school was held in Krakow in June 2007. The aim of...
The EURACHEM Proficiency Testing Working Group (www.eurachem.org), in co-operation with CITAC (www.citac.cc) and EQALM (www.eqalm.org), welcomes you to attend the 6th event of a series of Workshops addressing current practice, problems and future directions of interlaboratory comparisons in analytical chemistry, microbiology and laboratory medicine. These events are structured to include both key-note lectures and discussions in working groups, to enable interactive participation and cross-fertilisation of ideas.

**Scope of the workshop**
Lectures, presented by invited speakers, and working group tasks will highlight the following topics:
- Frequency of PT/EQA and monitoring performance over time;
- Developments in PT/EQA within the EU;
- PT/EQA in developing countries;
- PT/EQA in microbiology;
- PT/EQA in forensic science;
- The new standard for PT/EQA: ISO/IEC 17043;
- End-user perspective of PT/EQA;
- Quality of test items used in PT/EQA.

Two training courses, open to workshop participants only, will be organised on the day before the workshop (5th October) providing opportunities for training for both PT/EQA organisers and end-users. These training sessions will address:
- Statistics for Proficiency Testing
- Selection, use and interpretation of PT/EQA Schemes

In conjunction with the Workshop there will be poster sessions for which contributions are very welcome (all abstracts required by 15th June 2008). There will also be a small exhibition for products and services related to PT/EQA and laboratories activities (all applications required by 1st September 08).

**Who should attend?**
The Workshop will be beneficial to all those concerned with PT/EQA; scheme organisers, QA managers, internal and external assessors, participants in PT/EQA and the laboratories' customers.

**Venue**
The Workshop is being held in Rome, one of the most ancient cities in Europe, founded over 2700 years ago. Rome is located in the middle of the Italian peninsula, at the centre of the Mediterranean Basin. Connections with the rest of Italy and the world are assured by means of two airports and excellent highway and train systems.

The Workshop will be held at Centro Congressi Frentani (www.congressisrentani.it) within easy reach from both Termini and Tiburtina railway stations.

**Further information & registration**
Please contact the Workshop Secretariat:
- T: +390649902562
- F: +390649387077
- E: eurachem.pt2008@iss.it
- www.iss.it/eurachem/

Brian Brookman
Chair, EURACHEM PT Working Group
LGC Standards, UK

Marina Patriarca and Antonio Menditto
Chairs of Local Organising Committee
Istituto Superiore di Sanità, Rome, Italy

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**The diary**

<table>
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<tr>
<th>Event</th>
<th>Venue &amp; Date</th>
<th>Contact</th>
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</table>
| 2nd EUCheMS Chemistry Congress | Turin, Italy | Evelyn McEwan, Royal Society of Chemistry, UK
| | 16-20 Sept 2008 | T: +44 2074 40 3303 mecwane@rsc.org |
| 6th Eurachem workshop on PT | Rome, Italy | Dr Marina Patriarca, ISS, Italy
| Proficiency testing in analytical chemistry, microbiology and laboratory medicine | 6-7 Oct 2008 | T: +39 011 3919 837 marina.patriarca@iss.it |
| Proficiency Testing | LGC, Teddington, UK | Lorraine Didinal, LGC Training Centre
| | 10 Sept 2008 | T: +44 20 8943 7631 training@lgc.co.uk
| Statistics for Analytical Chemists | LGC, Teddington, UK | (Click on ‘Training Courses’) |
| | 17 Sept 2008 | |
| Implementing ISO/IEC 17025 in testing laboratories | LGC, Teddington, UK | Dr Steve Wood, LGC, UK |
| | 11 Nov 2008 | T: +44 (0)208 943 7670 berm12@lgc.co.uk
| Method validation | LGC, Teddington, UK | www.berm12.org |
| | 2-4 Dec 2008 | |
| Principles and practice of measurement uncertainty in chemical testing laboratories | LGC, Teddington, UK | Sandrine Gazal, Secrétariat Général CFM
| | 14-15 Oct 2008 | T: +34 4 67 06 20 36 info@cfmetrologie.com |
| Quality Systems | LGC, Teddington, UK | |
| | 23 Sept 2008 | |
| 12th Biological and Environment Reference Material Symposium (BERM 12) | Oxford, UK | |
| | 7-10 July 2009 | |
| 14th International Congress of Metrology | Paris, France | |
| | 22-25 June 2009 | |
ILAC and WADA sign MoU

At the World Conference on Doping in Sport held in Madrid, Spain on the 15th November 2007 a Memorandum of Understanding (MoU) between the International Laboratory Accreditation Cooperation (ILAC) and the World Anti Doping Agency (WADA) was signed.

At the invitation of WADA, Mr Daniel Pierre (ILAC Chair) and Alan Squirrell (ILAC Secretariat) were invited to this important conference, where we had the opportunity to speak and then sign this significant MoU.

This MoU is a reflection of the hard work and strong cooperation on matters relating to laboratory accreditation since 2003. It also commits us to continue to work closely together in the future.

Our complementary roles are essential in the fight against drugs in sport – we work together to formally recognise the technical competence of the WADA laboratories – this then leads to community confidence in the laboratories’ outputs which are measurement results that are fit for their intended use. In WADA, very important decisions are based on these and therefore the laboratory’s role is essential.

My thanks to Dr Olivier Rabin, WADA Science Director, his team and WADA Laboratory Committee colleagues for all their support and also to Regina Robertson who has taken the lead on the ILAC side as convener of the WADA/ILAC Technical Committee working group.

About half (28) of the 59 ILAC full member accreditation bodies are involved in the accreditation of the currently accredited 34 WADA laboratories. Whilst this is a small number of laboratories in terms of the total number of laboratories accredited across all calibration and testing sectors - this is a very important fraction because it underpins the whole WADA testing regime. As we know, the results from these laboratories are closely scrutinized (read daily newspapers!).

Accreditation of laboratories by an ILAC signatory is now a pre-requisite for WADA accreditation – ILAC welcomes this initiative which reflects our true partnership.

We believe our complementary roles and activities provide a sound and robust frame work for effective laboratory assessments (based on ISO/IEC 17025 and the WADA International standard for laboratories – ISL). These provide the necessary requirements from both the technical and management systems perspectives.

One of the WADA’s initiatives is to train expert assessors in the application of the ISL and this is much appreciated (4 courses to date). This facilitates a holistic approach to our on-site assessment and thereby minimising duplication for the laboratories. Also the improved communication between the accreditation bodies and WADA on assessment issues gives mutual confidence that all the laboratory requirements are being satisfied.

We look forward to working just as hard in the future to further harmonise our laboratory assessment procedures and to promote the work of WADA laboratories in this challenging area and help them get the international recognition they deserve.

Thanks again and good luck to WADA in their future endeavours.
The original Eurachem Guide on Quantifying Uncertainty in Analytical Measurements (1995, updated in 2000) has become an invaluable document for measurement scientists across Europe and the rest of the world. It focused on the sources of uncertainty arising within the laboratory, but it excluded contributions arising from the primary sampling procedures. This need has now been addressed in the new Eurachem-CITAC Guide ‘Measurement uncertainty arising from sampling: a guide to methods and approaches’, produced jointly with EUROLAB, Nordtest and the UK RSC Analytical Methods Committee.

This (UfS) Guide was launched at a one day workshop at BAM in Berlin in April 2008. A range of speakers, mainly from the Eurachem UfS Working Group, made presentations and led discussions on the need for, and the main content of, the Guide, and worked examples across a range of application sectors (food, animal feed, soil and groundwater).

The UfS Guide regards the measurement process as beginning when the primary sample is taken. Sampling is therefore not a separate endeavour, with its own responsibility for measurement quality. Usually handling compliance decisions need to be considered. This has implications for the accreditation of the whole measurement procedure, rather than just the chemical analysis. Here there is a choice between the accreditation of organisations undertaking sampling and the certification of individual samplers.

A major aim of the UfS Guide is to clarify the meaning of fitness for purpose of measurements. A discussion of the fundamental concepts explains the redefinition of the measurement process to include both the primary sampling and the physical preparation of the sample (Fig 1). This is rooted in the general identification of the measurand as the actual concentration of the analyte in the sampling target rather than in the sample delivered to the laboratory.

This redefinition of the measurement process needs to be reconsidered by those involved in the whole measurement procedure, rather than just the chemical analysis. Here there is a choice between the accreditation of organisations undertaking sampling and the certification of individual samplers.

Two broad approaches to the estimation of uncertainty are described. The empirical (or top down) approach uses some level of replication of the whole measurement procedure to give a direct estimate of the final result of the measurement. Alternatively, the modelling (or bottom up) approach aims to quantify all of the sources of uncertainty individually, and then uses a model to combine them. Either way, the resulting uncertainty estimate should include contributions from both random and systematic effects, and from sampling and chemical analysis. These approaches and methods all have strengths and weaknesses, and some specifically exclude uncertainty contributions from systematic effects, such as sampling bias.

A particularly important aspect of the Guide is the six detailed examples, which cover the application of the most common methods of estimating uncertainty to a range of different materials and analytes (Table 1).

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**Table 1. List of worked examples in the UfS Guide for the estimation of measurement uncertainty arising from sampling**

<table>
<thead>
<tr>
<th>Target Material</th>
<th>Analyte</th>
<th>General Approach</th>
<th>Method of Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil - lettuce</td>
<td>Nitrates</td>
<td>Empirical</td>
<td>Duplicate sampling + ANOVA</td>
</tr>
<tr>
<td>Soil - contaminated</td>
<td>Pb</td>
<td>Empirical</td>
<td>Duplicate sampling + ANOVA</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Fe</td>
<td>Empirical</td>
<td>Duplicate sampling + Range</td>
</tr>
<tr>
<td>Food - Porridge</td>
<td>Vitamin A</td>
<td>Empirical</td>
<td>Particulate sampling theory + summation</td>
</tr>
<tr>
<td>Feed - for chickens</td>
<td>Enzyme</td>
<td>Modelling</td>
<td>Budget summation</td>
</tr>
<tr>
<td>Soil - agricultural</td>
<td>Cd &amp; P</td>
<td>Modelling</td>
<td>Budget summation</td>
</tr>
</tbody>
</table>

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2 http://www.eurachem.org

3 Wood R., 2008, Uncertainty from sampling – discussions with the Codex Alimentarius Commission. Presentation at UfS Workshop in Berlin (web address)


5 Ruddle J. (2008). Uncertainty from sampling and accreditation of sampling. Presentation at UfS Workshop in Berlin (web address)
Survey of national Eurachem activities

Web Survey of National Eurachem Activities

It was agreed at the General Assembly meeting in Vilnius in May 2007 that there was a need to summarise the range of impressive activities carried out by national Eurachem organisations during 2006-2007. A survey of national Eurachem organisations was carried out during the period June to September 2007. The Executive Committee considered that the information gained from this exercise was very valuable, and it was repeated during the spring of 2008, with a few minor modifications to the questionnaire. All 33 national Eurachem members were contacted and asked to complete an on-line questionnaire. In total, only 13 (14 in 2008) organisations responded. However, the information obtained from these respondents was very useful. The information reported here relates to the organisations responding to the surveys. Figures in brackets relate to 2008.

Membership

The number of members declared by respondents ranged from 0 to 150 (0 and 5000), and totalled approximately 770 (7170). In some countries, members are individuals whilst in others they are organisations. This distinction was addressed in the 2008 survey, with 330 corporate members being reported. However, if these numbers are extrapolated to all Eurachem national organisations, a total membership figure of approximately 2000 (20000) can be assumed.

Events Held

A total number of 35 events had been held in 2006-2007 (56). These events covered a range of activities including National Meetings and Working Groups and courses or seminars on subjects including method validation, measurement uncertainty, proficiency testing, accreditation and QA/QC. Full information on the number of delegates attending these events was not provided, but the total number attending the events listed was over 1000 (1950).

Translations of Guides and Documents

A total of 10 (16) Eurachem guides or documents, including those published jointly, were translated, or were in the process of being translated, during the year. Some countries have a greater need to translate documents, where English is not widely understood.

Other Activities and Comments

Other activities carried out by national Eurachem organisations included colloquia, ILCs and newsletters. Several countries commented on the co-operation with the national accreditation body being strong. Some negative comments were also received regarding the Secretariat, the delay in publishing the last newsletter and the website. Hopefully, these issues have now been resolved. Comments received in 2008 were generally more positive.

Update for 2008

Information about the traceability systems in member countries was requested in the 2008 survey.

How is Traceability Established?

The use of reference materials for establishing traceability (using pure CRMs, matrix CRMs and trueness testing using matrix CRMs) was widely used, with 11 countries using each. 8 used trueness checks using matrix CRMs, and two other approaches were reported.

Who provides chemical reference values?

The most common answer was that Commercial CRM suppliers provide reference values (12), followed by the National Measurement Institute (6), International Organisations (5) and calibration labs and labs designated by the NMI (both 4).

Traceability improvements needed

Members were asked what improvements to the traceability system were needed. The responses were quite similar with most requiring more accredited CRM suppliers and more matrix CRMs.
Cyprus

Cyprus changes Eurachem Organisational Structure

The Cyprus Eurachem Committee is currently being restructured in order to become a division of the Pancyprian Union of Chemists (PUC). This development followed a revision of the Memorandum of Understanding of PUC, now providing for the establishment of divisions on a number of topics. It is considered that in this way the Committee will be more efficient and ensure better communication with its members as well as an open door to new comers.

The Committee has been working in close co-operation with other organizations, namely Cypruslab, the Cyprus Organisation for the Promotion of Quality-the Cyprus Accreditation Body and the University of Cyprus.

Some very important events were organised by the Committee or with its active involvement. A discussion was carried out with the Association of Medical Laboratories on issues related to the accreditation against EN ISO 15189:2007 and in particular on the notification of conformity assessment bodies and testing laboratories in the legally regulated area of environmental protection. Other issues of common interest were measurement uncertainty problems arising in connection with the sampling of drinking water, quality management in connection with REACH and the ILAC criteria for the accreditation of reference materials etc.

On behalf of the Cyprus Eurachem Committee
Dr Kyriakos C. Tsimillis

Finland

Changes to the Organisation of Eurachem Finland

Eurachem Finland and Eurolab Finland have established a common organisation called the Finntesting society, Finntesting-yhdistys ry (in Finnish), which has the status of a legal entity. The society has two divisions, Eurachem Finland and Eurolab Finland, to continue co-operation on the international level.

Germany

Germany hosts Workshop on Uncertainty

In Germany the merger of national sections of EUROLAB and EURACHEM was finalised in 2003. It was seen as important to join forces while at the same time reducing organisational efforts, double meetings, travel costs etc. The name of the new organisation, which acts as national section of the European Federations EURACHEM and EUROLAB Germany, chemical analytics, measurement and testing technology”.

In the course of this merger the Committee for Chemical Analytics (EDAC) was established. Its main aim is to strengthen cooperation in the field of chemical measurements to identify and promote the most efficient procedures. It acts at the same time as the national mirror committee of the European Eurachem working group.

In the past years the EDAC has concentrated on accreditation issues and on the notification of conformity assessment bodies and testing laboratories in the legally regulated area of environmental protection. Other issues of common interest were measurement uncertainty problems arising in connection with the sampling of drinking water, quality management in connection with REACH and the ILAC criteria for the accreditation of reference materials etc.

On the initiative of the EDAC a working group “Measurement Uncertainty in Microbiological Testing” was founded in 2004 and has been successfully involved in helping laboratories solve respective problems in their daily laboratory routine work.

Since 2007 the EDAC is being headed by professor R. Kaus, deputy chairman of the “Education and Training” Working Group of Eurachem. His deputy is Dr. Koch who is also active at the international scene in the Eurachem Proficiency Testing Working Group (PT WG).

In April 2008 the CITAC/EURACHEM/EUROLAB Symposium “New developments in measurement uncertainty in chemical analysis” was organised in Berlin in cooperation with EUROLAB-Germany.

Poland

A Busy Year for POLLAB-CHEM

Actually there are 60 member laboratories in the section of Polish chemical laboratories, led by Prof. Zbigniew Dobkowski (chair), Dr Anna Lukszo-Bienkowska (vice-chair), and the section secretariat, based in the Industrial Chemistry Research Institute in Warsaw, Eng. Hanna Glowala – the secretary.

The section has been established since 1992 as POLLAB-CHEM, one of sections of the Club of Polish Testing Laboratories POLLAB (recently the full member of EUROLAB). In 1993 the section joined the EURACHEM community as EURACHEM-Poland, initially as an observer and associate member, and it has been the full EURACHEM member since 2000. In 2001 the EURACHEM General Assembly was organised by EURACHEM-PL in Popovo, near Warsaw. Polish delegates participated, and still are participating, in EURACHEM meetings and GAs, as well as co-operated with EUROLAB WGs, actually are co-operating with PT, E&T and Qualitative Analysis WGs.

Amongst important tasks of the section, promoting ideas concerning the quality of chemical measurements and materials characteristics, in general, should be underlined, as well as distributing any information in which member laboratories are interested in. Therefore, several EURACHEM guides and other similar documents have been translated into Polish by the section members. The translations are listed below:


4. Quantifying Uncertainty in Analytical
operates within the organisation structure of POLLAB and it is financially supported by POLLAB.

**Sweden**

Sweden concentrates on Internal Audits

We meet regularly twice per year. The spring meeting is organised together with the Swedish accreditation body, SWEDAC in Stockholm and is focussed on accreditation issues. The autumn meeting is held at one of the member’s laboratories. At this meeting 2007 we organised a workshop on different approaches to measurement uncertainty based on the Eurolab report Measurement Uncertainty revisited.

In September 2007 a Workshop on internal audits according to ISO 17025 was organised – this course has been very popular and in our view it is a good way to highlight quality issues. Several of our members have different sites and use personnel from other sites to perform the audits. Visiting other labs within the company has been regarded as very fruitful.

In November 2007 a Workshop on measurement quality – TrainMIC - was organised in co-operation with IRMM and presenting the general issues for measurement quality. (For info about TrainMIC see www.trainmic.org)

In February 2008 a Workshop on metrology research at the National Metrology Institute in Europe, the IMERA program was organised in co-operation with SP Technical Research Institute of Sweden.

To be held 18 June 2008: A TrainMIC Workshop on measurement quality will be held at the conference Analytical days organised by the Swedish Royal Society, Eurolab/Eurachem Sweden (www.eurolab-sverige.org):

Has through the 35 company members contact with about 100 laboratories and through the Swedish Royal Chemical Society contact with about 600 analytical chemists. In short the main task is to support the development for testing laboratories in quality issues through workshops, meetings and close contact with the Swedish accreditation body.

**United Kingdom**

Analytical Methods Committee of The Royal Society of Chemistry

Eurachem UK is hosted by the AMC committee of the RSC as an informal sub-committee. The AMC was set up in 1935 after renaming and modifying a former committee of the Society of Public Analysts and other Analytical Chemists. The original committee had been concerned with the uniformity of analytical methods. Since those times there have been many developments in analytical science and the AMC has contributed to them. Eurachem members may be interested to know that AMC Technical Briefs, Background Papers and Recommendations are available on the AMC pages of the RSC website below:

http://www.rsc.org/Membership/Networking/InterestGroups/Analytical/AMC/Composition.asp

As examples, some recent AMC Technical Briefs, Background Papers and Recommendations are listed below:-

**Technical Briefs:-**

- The standard deviation of the sum of several variables  April 2008
- Why are we weighting? June 2007
- Experimental design and optimisation (2): handling uncontrolled factors, December 2006
- Experimental design and optimisation (1): an introduction to some basic concepts, June 2006
- Mixture models for describing multimodal data, March 2006
- Uncertainties in concentrations estimated from calibration experiments, March 2006

**Background Papers:-**

- What is proficiency testing? Guide for end-users of chemical data, January 2005

**Recommendations:-**

- Measurement uncertainty and confidence intervals near natural limits, February 2007

The AMC continues its work through its main sub-committees of which the Statistical Methods sub-committee and the Sampling Uncertainty/Sampling Quality sub-committee are possibly of most interest to Eurachem colleagues.
Contact points

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Vice Chair: Prof Miloslav Suchanek
(Institute of Chemical Technology, CZ)

Past Chair: Dr Steve Ellison
(LGC, UK)

Secretary: Dr Evangelos Bakeas
(National and Kapodistrian University of Athens, GR)

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To get involved with Eurachem in your nation, contact the Eurachem Secretariat for details on how to contact your national representatives or visit the Eurachem website.