



Words from the Chair

When I prepared my introduction to Newsletter 38 in autumn last year, I was hoping that we would return to some kind of normality in 2021. Sadly, this has not been the case as the Covid-19 pandemic has continued to have a significant impact on all of our lives.

We have all learned a lot in the past 18 months in terms of how to continue working and collaborating when face-to-face meetings are not possible. I am pleased to report that Eurachem has had another busy year, even though our original plans for 2021 had to be modified somewhat. Unfortunately, we were unable to travel to Prague for the General Assembly week. However, our colleagues in Eurachem Czech Republic ably organised a successful virtual workshop and General Assembly on 17-21 May. As in 2020 we had a high number of attendees at the General Assembly. The virtual format allows participation from a wider range of members. We shall therefore be exploring options for hybrid events in the future to maintain the high level of participation.

This year has once again seen measurement reliability and data quality under scrutiny, both in relation to the pandemic and the renewed focus on climate change at the COP26 summit. Eurachem's work to support laboratories in making fit-for-purpose measurements therefore remains as important as ever. Our focus is not just on the measurement procedure, but the whole measurement cycle, from understanding the customer's problem to interpreting the data and making assessments of compliance. Sampling is a critical step in this process and a joint initiative between the Method Validation and Uncertainty from Sampling Working Groups has recently been launched to look at best practice in validating sampling procedures. To support laboratories and end-users in interpreting data, the 2nd edition of the Eurachem/CITAC guide on "Use of Uncertainty Information in Compliance Assessment" was published in April. Participation in interlaboratory comparisons is a key component of a laboratory's 'quality toolkit'. In March, the popular Eurachem guide on "Selection,

Use and Interpretation of Proficiency Testing (PT) Schemes" was published, thanks to the work of the EEE PT Working Group (EA-Eurolab-Eurachem). EQALM (European Organisation for External Quality Assurance Programmes in Laboratory Medicine) as an affiliate member of the Working Group was also involved in the revision.

While Eurachem's guidance has typically focussed on quantitative tests, the quality of the outputs from qualitative analysis is equally important. The Qualitative Analysis Working Group has developed guidance on the "Assessment of Performance and Uncertainty in Qualitative Chemical Analysis" which was published in November. The guide was introduced at a joint online workshop with CITAC during January 2022 which included sessions on qualitative chemical analysis, qualitative forensic analysis and laboratory medicine.

Many Eurachem guides are developed in collaboration with partner organisations, and the network benefits greatly from its liaisons with stakeholder organisations

that share common interests in measurement quality. During the year the Executive Committee has been working to refresh and formalise its relationship with a number of key organisations. This has resulted in new Memorandums of Understanding being signed with NMKL, Eurolab and AOAC-Europe.

When I became Vice-Chair in 2018 I never imagined that Eurachem would effectively be operating as a virtual network during my time as Chair. However, it is a great credit to everyone involved that the network has continued to function and flourish during these extraordinary times. I am confident that when I hand over the Eurachem MoU to the Chair-elect Isabelle Vercrey in May 2022, I will be handing over a network that is in good health.

Enjoy the newsletter and I look forward to being able to meet in person again in the near future.

Vicki Barwick | Eurachem Chair

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Eurachem General Assembly 2021

This year, Eurachem's General Assembly was held as an online meeting organised by Eurachem Czech Republic on 20-21 May. Unfortunately, due to travelling restrictions caused by Covid-19, we could not welcome national delegates and liaisons in Prague.

The 37th meeting was attended by 50 participants, including national delegates from 27 member countries and the European Commission. We were happy to welcome both of Eurachem's honorary members (Maire Walsh and Alex Williams) as well as several representatives from liaison organisations. This year the election of three ordinary members of the Executive Committee took place. Helen Cantwell (Ireland) was elected as a new member of the committee. Kyriacos Tsimillis (Cyprus) and Wolfhard Wegscheider (Austria) were re-elected. Elena Sanchez (UK) was elected as treasurer and Oktay Cankur (Turkey) as the financial auditor for next year.

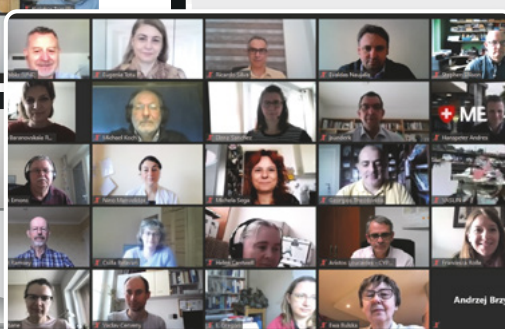
Despite the limitations of virtual meetings, the discussion forum led by Steve Ellison (UK) and Bertil Magnusson (Sweden) ran smoothly. The topic of the forum, "Use of Uncertainty Information in Compliance Assessment" was chosen by the General Assembly membership. For the first time, online polls were used during the discussions.

Updates on the status of Eurachem policies, guides and leaflets, and Working Group activities were presented. Moreover, activities from the newly formed Communication Task Group were reported and participants were encouraged to join the e-news mailing list.

The reports from liaisons and stakeholder organisations play an important role in the Eurachem General Assembly meetings. Many of the reports are provided by the national representatives but representatives of EURAMET TC-MC, NMKL, Metrofood RI, CITAC and CCQM were also present and informed about recent activities.

The general assembly meeting was accompanied by two meetings of the Executive Committee. As local organisers we would like to thank the Eurachem Chair Vicki Barwick, and the Eurachem Secretary Elena Sanchez for the excellent organisation of the meeting. Technical support from Palacky University in Olomouc both for the General Assembly and the workshop is also gratefully acknowledged.

David Milde
Eurachem Czech Republic Chair



Participants in the virtual Eurachem General Assembly 2021 meeting

Events

Online workshop: Trends and challenges in ensuring quality in analytical measurements

Eurachem Czech Republic and Palacky University in Olomouc were delighted to host the scientific workshop "Trends & Challenges in Ensuring Quality in Analytical Measurements" that ran online from 17-19 May. The workshop aimed to: reflect on experience with the ISO/IEC 17025:2017 standard after the end of the transition period; present current Eurachem activities in the field; and discuss future challenges in quality in analytical measurements from both research and practical perspectives.

Almost 130 participants from 45 countries registered for the event. About 15% of them were students. The Czech Republic, Ireland and Turkey were the most represented countries. The scientific programme consisted of 15 invited lectures, two breakout sessions and 13 posters. The lectures covered many

important topics in the field of metrology in chemistry (such as method validation, uncertainty evaluation, proficiency testing and evaluation of performance in qualitative analysis). Invited speakers came mainly from Eurachem Working Groups as well as from our national accreditation body.

One of the lectures presented a current hot-topic: SARS-CoV-2 Diagnostic tests. In the limited time frame of the online workshop, we could not dedicate as much time to the poster session as we would have liked. The authors were asked to briefly introduce their posters and the posters were available in electronic format on the workshop website.

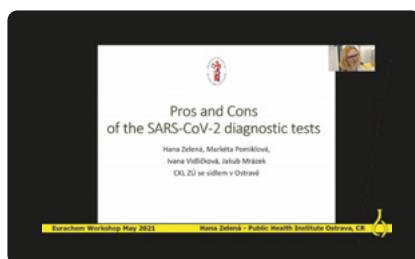
Experience with transition to the revised ISO/IEC 17025 standard and the fitness for purpose of qualitative analysis were discussed during the breakout session on the first day. The discussions in the third

day's breakout sessions were dedicated to software validation and compliance assessment. Many important inputs to future work of Eurachem's Working Groups were raised.

As usual, pdf versions of all presentations and all posters are available on the Eurachem website. Additionally, the presentations were recorded and are available on the Eurachem YouTube channel.

As organisers we would like to express our thanks especially to the speakers, the scientific committee members chaired by Miloslav Suchánek (Czechia) and also to all participants.

David Milde
Eurachem Czech Republic Chair



Screen capture of presentations from Ricardo Bettencourt da Silva and Hana Zelená.

Workshop on the assessment of performance and uncertainty in qualitative chemical analysis

CITAC, Eurachem and HSA Singapore co-organised a series of online workshops on the "Assessment of Performance and Uncertainty in Qualitative Chemical Analysis" on 19-27 January 2022.

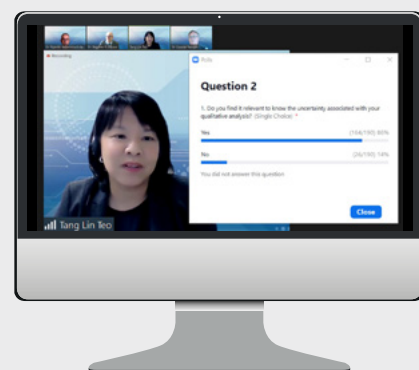
The event aimed to present the recently published Eurachem/CITAC guide on the assessment of qualitative analysis reliability and discuss other approaches for the analytical quality management of qualitative analysis.

The workshop comprised four sessions: Session 1 – the EURACHEM/CITAC Guide, Session 2 – Qualitative chemical analysis, Session 3 – Qualitative forensic analysis and Session 4 – Qualitative

analysis in laboratory medicine. Over 500 different participants from 75 territories attended the workshop.

Based on feedback responses, the workshop was well received, with over 90% of respondents stating that the sessions partially or fully met their expectations. In addition, over 70% of respondents said that they expected to implement the new Guide in future work, with 51% of respondents indicating they would do so within the next two years.

The links to the videos of the four sessions are available on the Eurachem website: <https://www.eurachem.org/index.php/events/completed>



Dr Tang Lin Teo, one of the members of the Scientific Committee for the Workshop, collecting the results from an online survey: 86% of the respondents thought that it is relevant to know the uncertainty associated with qualitative analyses

Guides and leaflets

All guides and leaflets are available from the Eurachem website, www.eurachem.org/index.php/publications

Revision of the “Selection, Use and Interpretation of PT Schemes” guide published

The latest edition of the popular Eurachem guidance on the selection, use and interpretation of proficiency schemes was published.

This 3rd edition brings the guide up to date with standards and guidance documents that have been revised and developed since the 2nd edition was released in 2011. In particular it aligns the guide with ISO 13528:2015 and with current guidance on developing a PT participation strategy and selecting the most appropriate PT schemes.

The 3rd edition was prepared by the EEE-PT Working Group (EA-Eurolab-Eurachem). EQALM (European Organisation for External Quality Assurance Programmes in Laboratory Medicine) as an affiliate member was also involved in this revision.



New edition of Eurachem compliance guide and information leaflet

The Eurachem Measurement Uncertainty and Traceability Working Group published a new, revised edition of the Eurachem/CITAC guide “Use of Uncertainty Information in Compliance Assessment”, together with a revised version of the introductory information leaflet on the same topic. Both are intended to help laboratories develop and use decision rules that can be used in conformity assessment applications, supporting the conformity assessment requirements of ISO/IEC 17025:2017.

The new information leaflet is a concise introduction to the topic of assessing compliance against limits. The new Guide includes a discussion and general recommendations, including the use of ‘guard bands’ to improve the probability of correct acceptance or correct rejection.

This is followed by more detailed guidance on establishing rules for interpretation and by several examples. The 2nd edition of the Guide includes several new features, including:

- use of decision rules that provide for conditional or inconclusive results is introduced (sometimes called ‘non-binary’ decision rules);
- a new introduction to the ideas of ‘global’ and ‘specific’ risk, which are important concepts in ILAC G8;
- use of the lognormal distribution for some important asymmetric cases.

New guide

Assessment of Performance and Uncertainty in Qualitative Chemical Analysis

The joint Eurachem/CITAC Qualitative Analysis Working Group is pleased to announce the release of a new guide on “Assessment of Performance and Uncertainty in Qualitative Chemical Analysis”.

Qualitative analysis is analysis that returns a classification rather than a numerical value. Typical qualitative analyses determine the identity of a chemical substance, the type of plastic of a microparticle, the source of an oil spill, or the presence of accelerant in fire debris. The information used in these determinations can be qualitative, such as the response to a spot test, or can include quantitative information such as line frequencies and intensities in IR or NMR spectroscopy, or mass/charge ratios in mass spectrometry. This new Eurachem/CITAC guide aims to provide some tools to help improve the

quality of qualitative analysis and of their interpretation.

To help assess performance of qualitative procedures, the guide provides common measures of performance for qualitative analysis and gives experimental and other strategies for estimating performance. It includes brief recommendations for ensuring that any measurements undertaken in the course of a qualitative analysis are reliable.

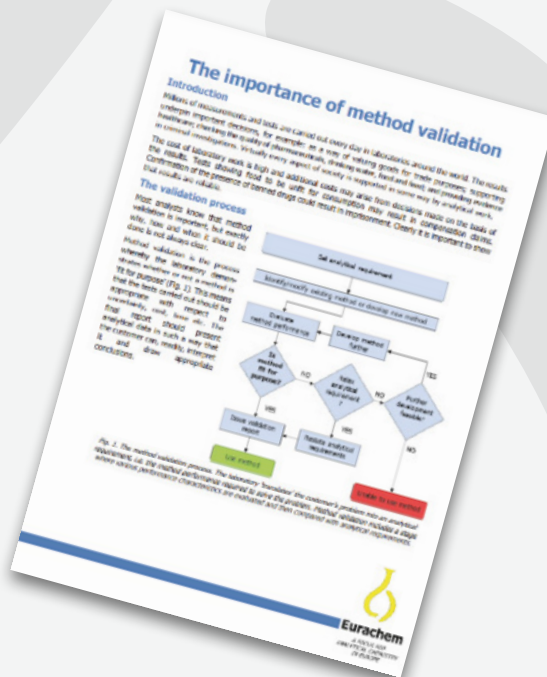
Although the guide does not make recommendations on whether or not laboratories should routinely report information on the confidence associated with qualitative analysis results, the guide does describe some key metrics that can be used to convey the confidence (or uncertainty) in qualitative conclusions.

New leaflet

The Importance of Method Validation

A new leaflet, prepared by the Eurachem Method Validation Working Group, provides a brief introduction to the overall process of validation and the key performance characteristics to be studied, and provides pointers to more detailed guidance.

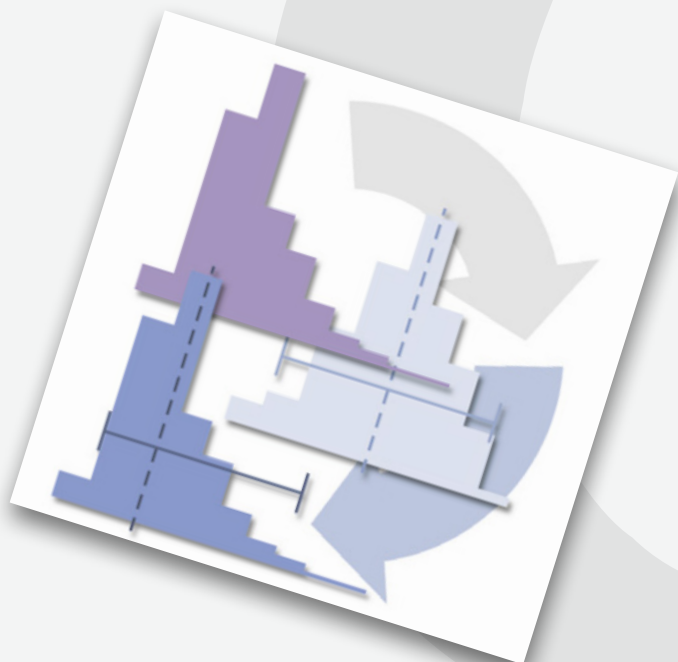
Method validation is an important requirement in the practice of analytical science. ISO/IEC 17025, OECD guidelines on Good Manufacturing Practice and many similar codes of practice require some level of validation, whether by verification of the laboratory's implementation of published standard methods, or by comprehensive validation studies of new, in-house, procedures.



New leaflet

What is the “Uncertainty Factor”?

The Eurachem Working Group on Uncertainty from Sampling published a new information leaflet introducing the idea of the ‘uncertainty factor’. The leaflet, which was developed jointly with the RSC Analytical Methods Committee, explains how an uncertainty factor can be used to provide a convenient and realistic uncertainty interval in circumstances where a simple symmetric interval is not suitable.



News

Communications Task Group update

The Communications Task Group (CTG) was formed in May 2020 and has continued to be active during 2021. The group focuses on the following activities:

- maintaining and delivering a Eurachem marketing and publicity plan;
- maintaining a website for Eurachem;
- developing and maintaining a list of contacts for promoting Eurachem activities and outputs;
- distributing regular e-newsletters, with additional emails as required to promote specific activities;
- using social media to promote Eurachem activities;
- producing an annual newsletter.

The e-newsletter is distributed three times a year. If you haven't yet done so, you can subscribe to the newsletter at <https://www.eurachem.org/subscribe>.

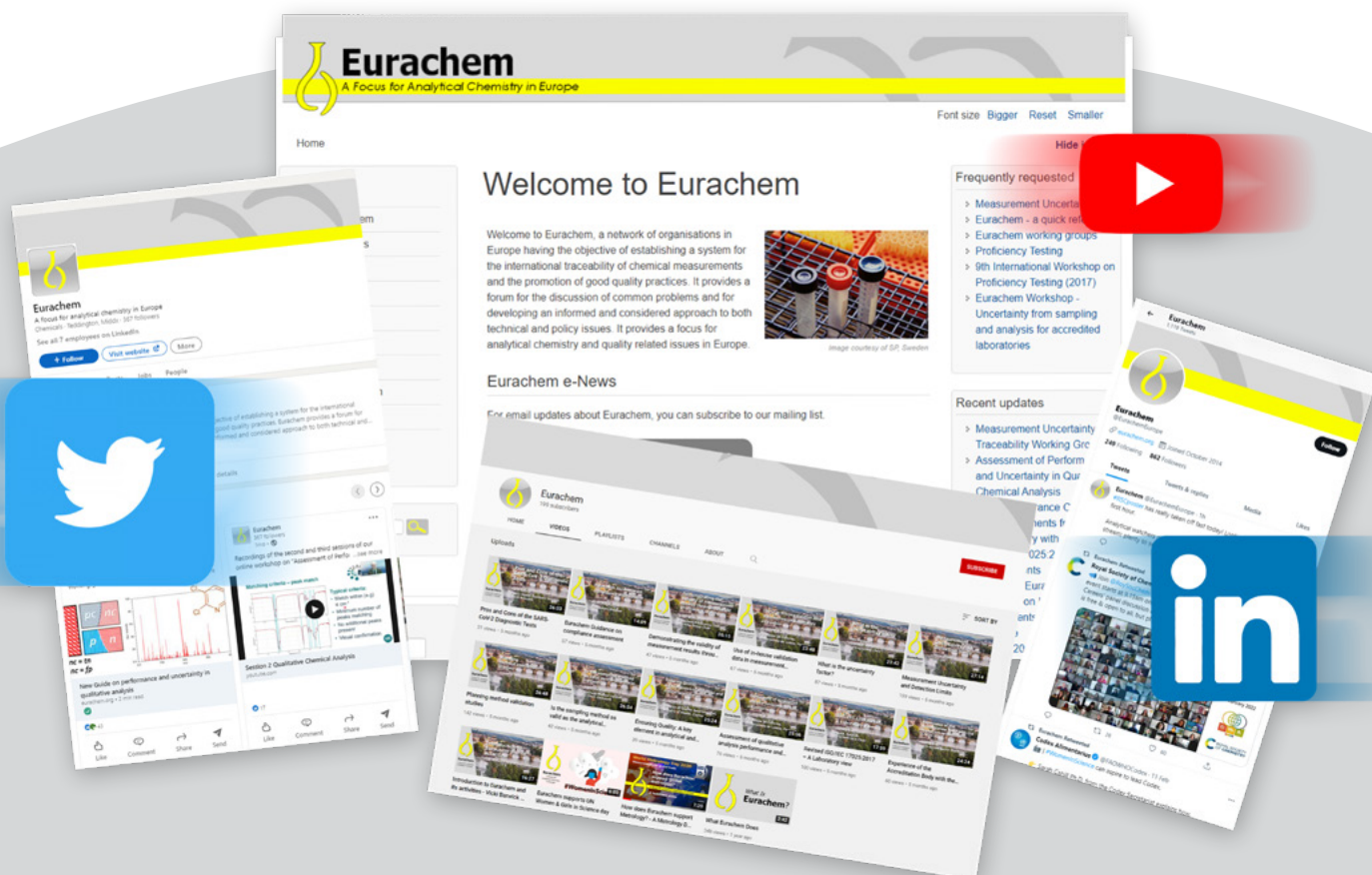
You can also keep in touch with Eurachem activities via our Twitter account @EurachemEurope and the 'corporate' LinkedIn page which was launched in early 2021 (see <https://www.linkedin.com/company/eurachem/>). We encourage you to follow the page and share posts within your networks so that we can spread the Eurachem 'message' as widely as possible.

The CTG also coordinates Eurachem's activities in support of 'World Days'. These range from social media posts highlighting relevant Eurachem guidance, through to videos and blogs – a great way to promote Eurachem as a focus for analytical chemistry in Europe. During 2021 Eurachem members published three blogposts (supporting World Water Day on 22 March, Spanish Language day on 23 April and World Environment Day on 5 June) and produced a video to celebrate the International Day of Women and Girls in Science on 11 February (see the article on page 10 for further details).

Another important activity in the second half of the year was the survey of Eurachem website users – see the article on page 8 for the results.

The CTG members are: Vicki Barwick (Chair), Elena Sanchez (Secretary), Steve Ellison, Riin Rebane and Isabelle Vercurysse.

Vicki Barwick
CTG Chair



Eurachem website survey

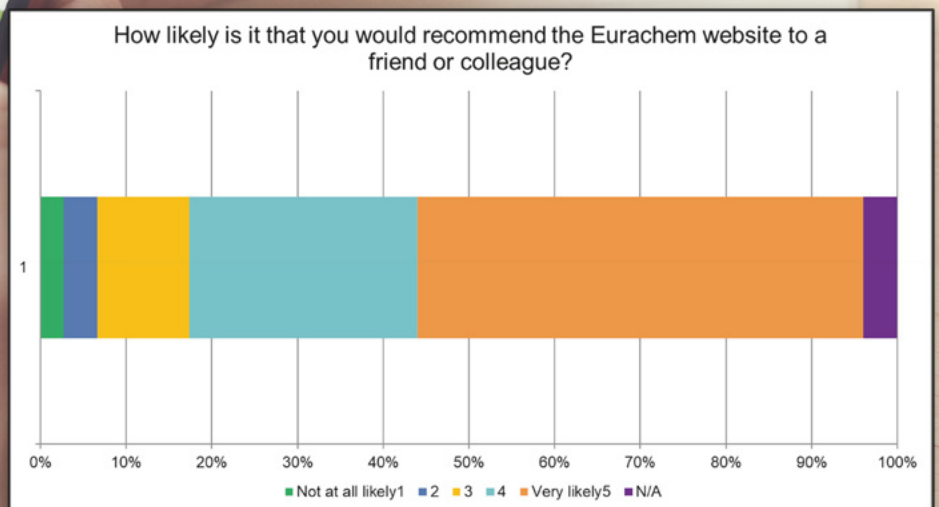
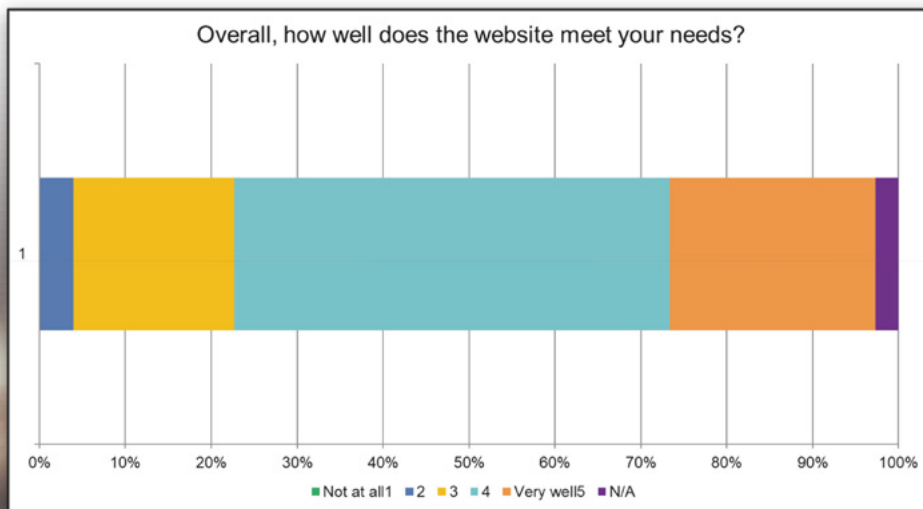
Eurachem website user survey – how are we doing?

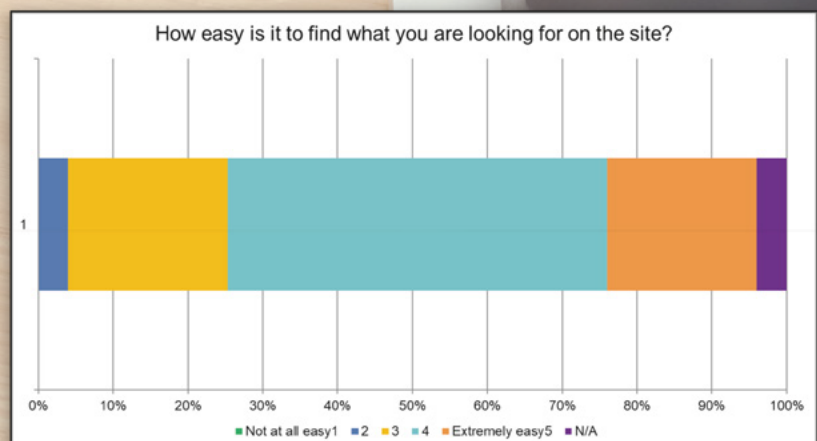
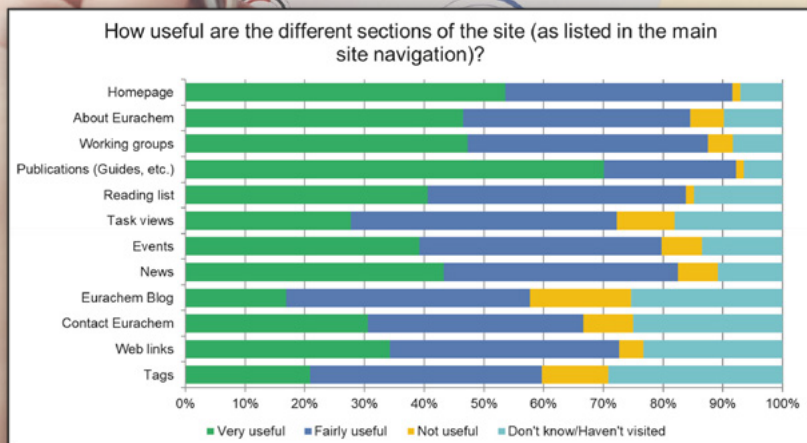
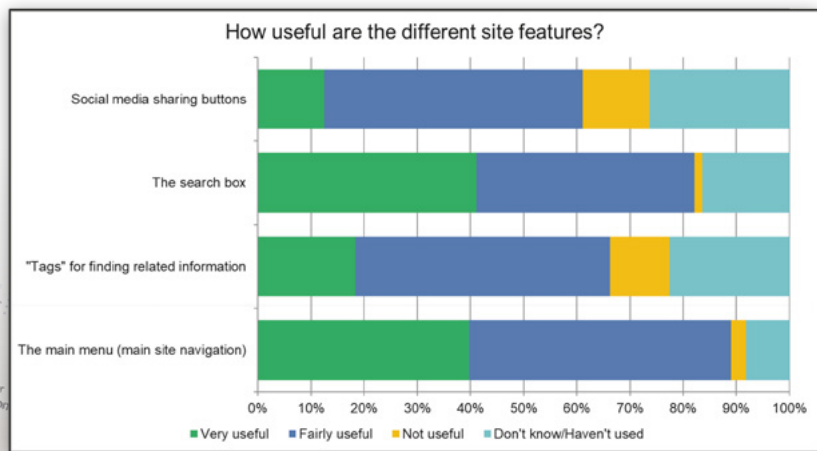
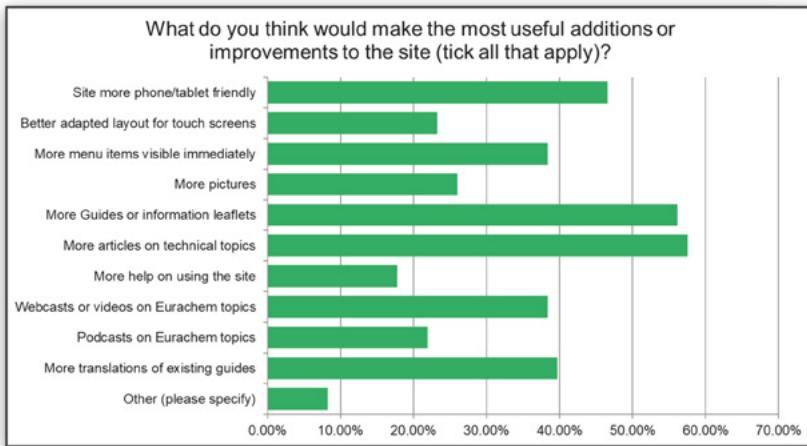
On 12 July, the Eurachem Communications Task Group (CTG) launched a survey of website users to establish whether the website meets current needs and inform future developments. By 4 October we had received 75 completed surveys. The good news is that the feedback was very positive. The figures below summarise the responses. The majority of respondents said that the website met their needs and that they would recommend it to a colleague. However, there are always opportunities for improvement and in the coming months the CTG will be looking at the following issues (although significant changes to the site navigation and 'look and feel' will be deferred until the upgrade of the content management system which is expected in the next 12-18 months).

- Increasing the number of technical articles on the site, for example by increasing use of the blog.
- Ensuring that weblinks to national Eurachem organisations are up to date.
- Refreshing the members and liaisons sections to make contact information more accessible and clarify the roles and activities of our liaison organisations.

Thank you to everyone who completed the survey and keep an eye on the website for future developments.

Vicki Barwick
CTG Chair





Eurachem celebrates 'World Days'

UN International Day of Women and Girls in Science

Eurachem's communications team took advantage of the UN International Day of Women and Girls in Science (11 February) to celebrate the contributions of our female members. Publicity activities included the preparation and promotion of two short videos, composed of short clips from female Eurachem Executive and General Assembly members explaining briefly how each contributed to Eurachem.

The resulting videos, edited by Stephen Ellison, were promoted via different platforms:

- One video was placed on the Eurachem YouTube channel and was publicised via a Twitter post on 11 February. The post was pinned (placed at the top of the Eurachem Twitter timeline and visible on viewing the Eurachem Profile page) on 12 February to maintain visibility.
- A second video, a shortened version of the first (1min 40s in length), was posted directly on Twitter on 11 February.
- A link to the YouTube video was additionally posted on the new Eurachem LinkedIn page.

These activities caused an increased engagement with the Eurachem Twitter and LinkedIn sites. The posts showed a very good impression rate (close to 5000) compared to typical Eurachem posts, few of which exceed 2000 views. The video was, at the end of February 2021, Eurachem's most-viewed YouTube video. Engagement rates for the Twitter posts were above average for Eurachem.

Participating in the celebration of Women and Girls in Science provided a great opportunity to showcase the work of Eurachem members and to increase the engagement with stakeholders.





Eurachem signs new collaboration agreements

Eurachem has longstanding collaborations with a number of organisations that share common interests in measurement quality. During the past year, the Executive Committee has been formalising some of these relationships by establishing new Memorandums of Understanding. The MoUs provide a framework for future collaboration, with a view to optimising resources to ensure maximum benefit for both organisations' members and the wider analytical community.

NMKL (Nordic Committee on Food Analysis), established in 1947, is a network of experts in food analysis from Denmark, Finland, Iceland, Norway and Sweden. The network provides reliable methods and develops guidelines for laboratories and users of analytical results, organises workshops and promotes Nordic food methodology interests internationally. Since 2007, NMKL has also offered NordVal International certification of alternative microbiological and chemical methods. On 16 August 2021 Vicki Barwick (Eurachem Chair) and Eystein Oveland (NMKL Secretary General) signed an MoU with the aim of fostering closer links and providing opportunities for collaboration between the two organisations.

Eurachem and EUROLAB have had a close and fruitful cooperation over many years. This was formalised on 19 October 2021 through the signing of a new MoU by Vicki Barwick (on behalf of Eurachem) and Paolo Moscatti (EUROLAB President). The organisations will work together in the organisation of joint events, contributing to joint Working Groups of mutual interest (e.g. on development of guidelines) and assist each other in finding suitable experts for dealing with specific topics. The picture shows the 'virtual' signing of the MoU.



Most recently, on 25 November, Vicki Barwick (on behalf of Eurachem) and Dr Thomas Gude (President of Europe Section of AOAC International) signed an MoU to foster closer links between the two organisations. The Europe Section of AOAC International, founded in March 1983 in Brussels, aims to promote interest and participation in AOAC International programmes related to method validation and ensuring the quality of measurements in the analytical sciences, and provide a means of increasing the knowledge and technical skills of analytical scientists, through symposia, seminars, forums, workshops and other similar technical updates.

Membership news

Denmark membership

Eurachem representation in Denmark is now shared between the Danish Chemical Society and Eurolab Denmark.

We welcomed **Anders Svaneborg** as a **second national representative for Denmark**.

National Representatives

Emanuela Gregori has succeeded Marina Patriarca as a **national representative for Italy**.

Piotr Robouch has succeeded Hendrik Emons as **the representative for the European Commission**.

Marija Trkmic succeeded Veronika Kubanovc as **the national representative for Croatia**.

We welcomed **Aghavni Ginosyan** as a **national representative for Armenia**.

People news

Meet the new Executive Committee members

At the Eurachem General Assembly in May 2021, two of our existing members – Kyriacos Tsimillis (Cyprus) and Wolfhard Wegscheider (Austria) – completed their three-year terms of office. Bertil Magnusson also took the decision to step down from the Executive Committee having completed two years of his three-year term. We thank Bertil (a former Eurachem Chair) for his contributions to the Executive Committee over many years and hope he will remain active in Eurachem for years to come.

To fill the vacancies, prior to the General Assembly meeting on 20-21 May, a vote of the Eurachem members was held to fill these three positions. As a result of this vote, Kyriacos and Wolfhard were re-elected, and Helen Cantwell (Ireland) joined the Executive Committee.

Below you will find short introductions to the Executive Committee members starting their terms of office in May 2021.



Helen Cantwell

Helen has a degree in analytical science and a PhD in biochemistry from Dublin City University. After graduating, Helen moved to Teagasc, the Agriculture and Food Development Authority in Ireland, where she worked as a Research Officer in the area of veterinary drug residues. Her work involved method development and validation along with routine analysis of samples in an accredited, regulatory laboratory. An affinity for quality led Helen to take on the role of Quality Manager, managing the laboratory's accreditation to ISO/IEC 17025.

Helen moved to the State Laboratory in 2015 and, since 2017, has worked in the area of animal feedingstuffs, fertilisers and limestones where she heads the Animal Feedingstuffs Section. The Section provides an analytical and advisory service to the competent authority in Ireland, is designated as an Official Laboratory under Regulation (EU) 2017/625 and hosts the National Reference Laboratory function for additives for use in animal nutrition and for metals and nitrogenous compounds in feed.

Helen's participation in Eurachem began in 2016 when she joined the committee of Eurachem Ireland. That same year she joined the Eurachem Method Validation Working Group and has served as Vice-Chair/Secretary ever since. Through her work with Eurachem, Helen has been involved in the organisation of workshops, including the 2018 Eurachem week held in Dublin, and has been involved in the publication of a number of guidance documents. She has served as one of the Irish national representatives to Eurachem since 2019.

Helen said "So much is dependent on the results of analytical measurements so the quality of those measurements is essential. I am glad to be part of Eurachem and to be able to make a real contribution to the work of the group in promoting quality in analytical measurements."



**Kyriacos
Tsimillis**

Kyriacos holds a BSc and a PhD in Chemistry from the University of Athens (1971, 1977 respectively). His postgraduate studies were carried out at the Nuclear Research Center 'Demokritos' (1972-1975). After a 6-year period of lecturing at the Physical Chemistry Department of the University of Athens (1975-1980), he was involved in standardisation, quality and environmental issues as well as certification activities in Cyprus for 20 years followed by 12 years of active involvement in accreditation activities, starting from the introduction of the accreditation system and as a lead assessor for laboratories and inspection bodies. He was also actively involved in European co-operation for Accreditation (EA) activities and the peer evaluation procedure.

He served as the Coordinator (2005-2009) and the Director (2009-2013) of the Cyprus Accreditation Body. He is an active member of the Pancyprian Union of Chemists (PUC), having served as its Chair (2003-2009); he is currently (2014-) the coordinator of the Division of Quality Assurance. Since 1997 he has represented Cyprus in Eurachem, and for many years has been a member of the Executive Committee (including a two-year period as its Chair from 2008-2010). Kyriacos also represented Cyprus in Eurolab and the Euromed Quality Programme. He has published a number of research papers, review articles and chapters in books on quality. He has been an invited speaker at numerous seminars, workshops and conferences and has organised many training activities and awareness-raising events.

He keeps a weekly column in a newspaper and since January 2017 has been an elected member of the Nicosia Municipality. In his free time he loves taking photos and drawing cartoons.



**Wolfhard
Wegscheider**

Wolfhard is Professor of General and Analytical Chemistry at the Montanuniversitaet Leoben, Austria. He received his education from the Graz University of Technology, majoring in Technical Chemistry with a specialisation in Biochemistry and Food Chemistry. His diploma thesis and doctoral thesis were in Analytical Chemistry with an emphasis on trace analysis and environmental analysis. As Fulbright Scholar he worked in Denver, CO, mainly on energy-dispersive X-ray fluorescence spectrometry. Much of his research centres on the development of chemometric procedures for analytical chemical problems. He is co-author of the textbook on Analytical Chemistry featuring the DAC FECS-Curriculum and a member of the editorial board and contributor to the Encyclopedia of Analytical Sciences (Academic Press). In addition to his Eurachem activities, Wolfhard is a member of several learned societies such as GDCh, GOECh and Co-operation on International Traceability in Analytical Chemistry (CITAC). He is a founding member of the Working Group on Education and Training and the Working Group on Measurement Uncertainty and Traceability. In both Eurachem and CITAC he also served as Chair. After a term as President, he is currently Member of the Board of Directors of the Austrian Society of Analytical Chemistry – ASAC. In 2010 he was appointed Fellow of the International Union of Pure and Applied Chemistry (IUPAC).

Wolfhard is a consultant to the Austrian Federal Ministry for Sustainability and Tourism, a lead auditor in the Austrian Accreditation of Laboratories System and an Editorial Advisor of Journals such as Mikrochimica Acta, Spectrochimica Acta Electronica, Chemometrics and Intelligent Laboratory Systems, and Accreditation and Analytical Quality Assurance. From 1995 to 2001 he served as Dean of Graduate Studies of Montanuniversitaet Leoben, and from 2003 to 2011 as Rektor (President) of this Institution. Presently he is Chair of the Board of Trustees of OeAD GmbH, the Austrian Agency for International Cooperation in Education and Research, and a member of the Statistics Committee of AOAC International for the period 2016-2019.



In Focus: replicate analysis during analytical testing

A summary of findings from a facilitated discussion between peer laboratories organised by Eurachem Ireland.

The question of replicate analysis is one that must be considered when analytical testing is carried out. When analysing a test sample, how many replicates should be carried out? If the test sample must undergo repeat analysis (e.g. to confirm a positive screening result), how many replicates should then be carried out? Should a laboratory have criteria in place for comparability of replicates and how are these criteria determined? What should be done if these criteria are not met? Eurachem Ireland organised a facilitated discussion on replicate analysis in September 2021 that brought representatives of a number of Irish laboratories together to discuss, and to share knowledge and their approaches, to the management of replicate analysis. The discussion, and the subsequent summary document based on the facilitated discussion, aim to provide some guidance to laboratories determining their own approach to replicate analysis during analytical testing.

The strongest message that came from the discussion is that laboratories that carry out analytical testing should document a procedure for replicate analysis. When developing this procedure they should take into account legislation and sectoral guidelines. In the absence of such guidelines, assessing what the test method is used for and the needs of the customer should ensure the procedure for replicate analysis is fit for purpose.

If initial or repeat analysis is to be carried out in duplicate, the laboratory should document, in advance, what constitutes an acceptable replicate result and what is reported to the customer. Acceptability criteria may be specified in legislation or sectoral guidelines but, if not, repeatability criteria can be determined during validation of a method or by gathering data of replicate analysis during routine use of a method.

The laboratory's procedure should document the steps the laboratory follows if the acceptance criteria for replicate analysis are not met. This procedure will often involve further repeat analysis in duplicate. This can be an issue if the sample submitted to the laboratory is small. In addition, the laboratory should consider sample preparation steps such as mixing, milling, homogenisation etc. Re-homogenisation of the entire original sample before test aliquots are taken for repeat analysis may be necessary. When laboratories are responsible for sampling, repeat analysis may include re-sampling.

There are a number of approaches a laboratory may take to reporting test results when it has analysed a sample, repeated it in duplicate, repeated in duplicate again following re-sampling/re-homogenising if appropriate, and the replicate analysis still fails to meet acceptance criteria. These may include reporting an average value, reporting an 'indicative' result or stating that a test report cannot be issued. Whichever approach a laboratory chooses to take, it should be agreed with the customer and documented in the replicate analysis procedure. If the test method is accredited, it may be advisable to discuss the approach with the accreditation body. In each case, it should be noted on the test report that the replicate analysis failed to meet acceptance criteria. When determining what should be reported to the customer, outlier tests can be a useful tool. They must be treated with caution, however, as they are less powerful with a small dataset and can be impacted by the presence of more than one outlier.

Dr Helen Cantwell
Eurachem Ireland

The full document on Replicate analysis during analytical testing can be found on the Eurachem Ireland website:
<https://www.statelab.ie/eurachem.html>

Eurachem Ireland would like to thank all those who participated in the facilitated discussion.

Working Group Reports

Education and Training Working Group

The Education and Training Working Group (ETWG) last met in May 2019. The next meeting was planned to take place online in September 2021.

The Working Group has made progress on the following activities since May 2020.

- The first Eurachem online Workshop, “Quality Assurance Elements for Analytical Laboratories in the University Curriculum” was organised. The ETWG strongly supported the first Eurachem online workshop that took place on 14-15 July 2020 organised by Eugenia Eftimie Totu and her colleagues at Eurachem Romania. Several ETWG members supported the scientific programme with their lectures and chairing of breakout sessions.
- Revision of Eurachem/CITAC “Guide to Quality in Analytical Chemistry” – task leader Kyriacos Tsimillis. The revision of the Guide was considered as one of the priorities of the ETWG soon after the publication of ISO/IEC 17025:2017. This was due to the fact that the current edition (2016), inevitably does not address the new aspects of the standard.
- QA reading list – task leader David Milde. The reading list is under review. The last update took place in 2019. The 2020 revision will be discussed during the next Working Group meeting and a decision on how to proceed with the revision will be taken. The overall aim is to update the list annually.
- Revision of the Eurachem Guide, “Terminology in Analytical Measurement, Introduction to VIM 3” – task leader Vicki Barwick. The final comments are currently being addressed.

David Milde

Chair, Eurachem ETWG

Method Validation Working Group

The Method Validation Working Group (MVWG) consists of 28 members representing 14 European countries. During the past year, there had been an increase in members actively contributing to the work (participating in meetings, sending contributions and comments etc) – possibly due to the Covid-19 restrictions facilitating remote collaboration.

Since the General Assembly in 2020 the MVWG has met twice at online meetings:

- 5-6 November 2020 (16 attendees)
- 7-8 April 2021 (13 attendees)

In that period, the Working Group has mainly been engaged in the following tasks.

- Revision of the 2nd edition of the guide “Fitness for Purpose of Analytical Methods”.
 - » Comments and suggestions for changes have been compiled over the last 2-3 years.
 - » Two editors (Helen Cantwell, Ireland, and Guy Lamon, Belgium) have developed a detailed plan and time-frame for the revision, and prepared the work by creating templates for the task groups to work with in relation to the present text and the references used in the guide.
 - » 16 task groups (with overlapping members) have been reviewing – and working on suggestions for revision – allocated sections (and sub-sections) of the guide.
 - » All task groups have delivered their inputs for revision by April 2021, and these will be compiled by the editors into a 1st revision.
 - » Based on the comments, the task groups will work towards a 2nd revision to be compiled in August 2021.



- A new subsection that is to be included in the next version of the guide, “Sampling and sample handling in relation to MV”, has been elaborated in cooperation with the Chair of the Uncertainty from Sampling Working Group (UfSWG), Mike Ramsey. The subsection is not aimed at giving full guidance on validation/verification of sampling procedures. However, the work has led to a cooperation with the UfSWG on possibly developing a more extensive document on the subject.
- A new annex has been prepared for inclusion in the revised version of the guide, “How to Select and Assure Validity of a Test Kit” (a checklist).
- A task group is working on drafting specific guidance on the validation of microbiology methods (as either a separate supplement or an annex to the guide). The group is waiting to establish the effect of the new standard ISO 16140-3:2021 “Microbiology of the food chain – Method validation – Part 3: Protocol for the verification of reference methods and validated alternative methods in a single laboratory”, before continuing its work.
- A task group is working on a new supplement to the guide, “Extent of Method Validation: Efforts to be spent by a laboratory to ensure fitness for purpose of a method”, which will be based on a risk assessment approach. A first draft of the supplement will be discussed at the Working Group’s autumn meeting.

- The Working Group is communicating with the Qualitative Analysis Working Group on possibly starting some joint work on the validation of such methods. At the same time it has been decided to remove all guidance on validation of qualitative methods (including the present Annex D) from the next edition of the Fitness for Purpose guide.
- A task group is revising some examples of validation protocols with the aim of publicising them on the website.
- The leaflet “The Importance of Method Validation” was finalised, approved by Executive Committee and uploaded on the website in February 2021.

A number of the Working Group’s publication have been translated:

- German translations of blanks and planning supplements;
- Turkish translation of leaflet;
- Spanish translation of planning supplement (still under review).

Translations of the blanks and planning supplements into Turkish are under preparation.

Lorens Sibbesen

Chair, Eurachem MVWG



Measurement Uncertainty and Traceability Working Group

The Measurement Uncertainty and Traceability Working Group (MUTWG) is responsible for four current Eurachem guides:

- Quantifying Uncertainty in Analytical Measurement (2012)
- Traceability in Chemical Measurement (2019)
- Use of Uncertainty Information in Compliance Assessment (2021)
- Setting Target Measurement Uncertainty (2015).

The Working Group published a 2nd edition of the guide "Use of Uncertainty Information in Compliance Assessment" in May 2021, which is now available from the Eurachem website. The new version updated the guide for consistency with recent international guidance, particularly ILAC-G8, and added new guidance on asymmetric uncertainty intervals and information on the concepts of specific and global risk, used in ILAC-G8 for conformity assessment.

The measurement uncertainty guide (QUAM:2012) was reviewed and confirmed in 2017. A small number of editorial corrections has since been published on the Eurachem website.

The Working Group continues to monitor JCGM WG1, the group responsible for the GUM, so that any substantive changes in international guidance can be addressed. The Working Group has also examined a range of approaches for large uncertainties, which generally result in asymmetric intervals; some of the approaches were presented and discussed at the workshop in November 2019 in Berlin.

The guide on setting target measurement uncertainty was reviewed during 2020-21. The Working Group found no need for substantial revision and accordingly confirmed the guide as current, but has published a short list of minor corrections (errata) on the Eurachem website.

The Working Group has also published a number of information leaflets:

- Information leaflet for laboratory customers concerning the quality of chemical analyses (2000)
- Traceability of Analytical Results (2019)
- Use of Uncertainty Information in Compliance Assessment (2nd ed, 2021)
- Using Repeated Measurements to Improve the Standard Uncertainty (2015)
- Treatment of an Observed Bias (2017)
- Setting Target Measurement Uncertainty (2018).

The latest of these, on use of uncertainty information in compliance assessment, was published in May 2021 alongside the Guide on the same topic, and has been updated to reflect current guidance.

In addition to the existing guidance, the Working Group is working towards draft guidance on the evaluation of

uncertainty from in-house validation data to supplement QUAM:2012. This has slowed somewhat with the focus on the compliance guide and individual commitments during an unusual year. However, the group hopes to resolve issues arising from treatment of uncertainties associated with bias, which poses problems for compliance with the GUM because the GUM does not apply to situations in which bias is known but uncorrected. This is common in chemical measurement as many regulations permit the use of methods which meet limits for a known net bias but do not require a correction if the requirement is met.

Steve Ellison

Chair, Eurachem MUTWG

Qualitative Analysis Working Group

The Qualitative Analysis Working Group (QAWG) has 17 members and met online in July 2020 and April 2021 to discuss the revision of the guide "Assessment of the Performance and Uncertainty in Qualitative Chemical Analysis".

The latest version of the guide was circulated among Eurachem members for a 60-day voting period finishing on 5 July 2021. Subsequently the guide has been approved and was published on the Eurachem website in November.

Ricardo Bettencourt da Silva was re-elected as the Working Group Chair in July 2021.

Ricardo Bettencourt da Silva

Chair, Eurachem QAWG

Proficiency Testing Working Group

The Eurachem Proficiency Testing Working Group (PTWG) has continued to make progress on a number of work activities.

- A state of the art paper on current practices for performance evaluation in qualitative and interpretative PT schemes, based on the results from a survey and literature search undertaken, has been published and will be submitted to "Accreditation and Quality Assurance". The paper highlights the wide range of performance evaluation criteria in use; a clear disadvantage compared to the more aligned approach in quantitative PT schemes. The paper presents current practices and scoring systems grouped by categories with defined criteria and may serve as a basis for further discussion and investigation towards the harmonisation of performance evaluation in qualitative and interpretative PT schemes.
- The Working Group has started a review of its existing PT leaflets to consider whether they need to be updated in respect to the publication of the 3rd edition of the Eurachem PT Guide.
- A new leaflet titled "Let's call a PT scheme a PT scheme!" is at an advanced stage and will be published soon.

- The Working Group is currently developing two new leaflets:
 - » Understanding PT Statistics
 - » Understanding PT Performance Assessment
- Work on the translations of the various published PT leaflets continues.

Arrangements for the 10th Eurachem PT Workshop, now moved to 2023, are ongoing.

Brian Brookman

Chair, Eurachem PTWG

Reference Materials Working Group

Unfortunately, and due to the persisting pandemic situation and other circumstances affecting the leadership of the group, limited steps were taken toward restructuring the Reference Materials Working Group (RMWG) and re-convening the RMWG members to update both the list of topics and the timetable of work.

The proposal for a way forward consists of the following steps:

- Define a dedicated RMWG email that can be used by both the Chair and Vice Chair
- Re-confirm membership
- Update membership on webpage
- Re-distribute existing group documents
- Convene the necessary online meeting(s) to discuss:
 - » election of Chair and Vice Chair
 - » revision of Working Group Terms of Reference/ work program
 - » updating the table of content for the revised RM Guide
 - » assigning drafting tasks
 - » defining a new timetable.

Marina Patriarca

Chair, Eurachem RMWG

Uncertainty from Sampling Working Group

The Uncertainty from Sampling Working Group (UfSWG) had one of its virtual 4-monthly meetings on 11 February 2021, jointly with the UfS Expert Working Group of the Analytical Methods Committee (AMC) of the Royal Society of Chemistry (RSC).

The Working Groups agreed on revised versions of two draft documents, that have since been approved by the Eurachem Executive Committee and the AMC, with minor modifications, and logos of both organisations:

- Eurachem Leaflet “What is the Uncertainty Factor” (to be published by Eurachem on its website);

- AMC Technical Brief on “How reliable is my uncertainty estimate” (to be published by RSC in the journal Analytical Methods).

A member of the Working Group, Fernando Cordeiro Raposo of the JRC, reported on the findings of a survey he had organised of approximately 30 National Reference Laboratories (NRLs) across Europe on awareness of uncertainty from sampling. The findings were:

- 33 % of NRLs supervise their own sampling protocols, and the rest delegate this activity to other organisations;
- 17 % include uncertainty from sampling in their estimates of measurement uncertainty;
- 28 % were not aware of the Eurachem/CITAC uncertainty from sampling guide.

A clear need was thus identified to increase awareness of uncertainty from sampling in the NRLs, and plans are being discussed to achieve this.

The Working Group has prepared and submitted comments, on behalf of Eurachem, on two Codex Documents:

- CX/MAS 21/41/9 Proposed draft Revised General Guidelines on Sampling (CXG 50-2004);
- CX/CF 20/14/10-Part II Proposed sampling plans and performance criteria in certain cereals and cereals-based products including foods for infants and young children.

Mike Ramsay

Chair, Eurachem UfSWG



National Reports

The work within our national Eurachem organisations is one of the most important channels to convey our message to laboratories and our stakeholders. Below you will find reports about activities in the national organisations.

Belgium

Belab is the association of Belgian Laboratories and organisations involved in accreditation. Belab is a member of Eurachem and Eurolab. The association has an Executive Board with 8 members and counts 50 member-laboratories in the General Assembly.

The members are laboratories from different sectors, and the members of the Executive Committee are represented in different boards of Belac (Belgian accreditation authority): Commission of coordination (management of Belac) and National Council (advisory board of Minister of Economy). Belab represents the laboratories in the Belac Board of Appeal.

Belab is chaired by Isabelle Vercruyssen (APB). Philippe Maesen (University of Liège) is Vice-Chair.

In March 2021, Belab organised a survey in cooperation with Belac. The topics of this survey were: flexible scope, bottlenecks and issues with ISO 17025: 2017, and collaboration with Belac. The purpose of this survey was to identify which improvement actions can be taken by Belac. The survey was sent to 270 labs (38 CAL/232 TEST) and received 171 replies (63.3%).

Belab organised an online informative session during the General Assembly in 2021. C. Fierens (Belab) presented the "Outcome of Belab survey on accreditation and flexible scope". J.L. Debiève (Trescal) and C. Geurs (Trescal) presented "Interpretation and evaluation of calibration certificates – formation from portfolio of "Trescal Institute". E. Somers (Belac) gave an informative session on flexible scope. M. Logghe (Belac) informed members with the presentation "Reaction to Belab survey and future plans of Belac".

Every year the activities and information of Eurachem are disseminated by a presentation at the General Assembly of Belab, via the website and by emailing newsletters to the members of Belab at regular intervals.

Isabelle Vercruyssen

Bulgaria

The Union of Metrologists in Bulgaria and the Bulgarian Institute of Metrology represent Eurachem in Bulgaria as the established section BULCHEM.

In 2020, the activity of BULCHEM was in line with the global COVID 19 pandemic and some of the courses and training were held online.

Training events were organised covering the following topics.

- The requirements of BDS EN ISO/IEC 17025:2018. Review of the main changes in the standard. Management of the risks and opportunities. Audit of a laboratory management system – basic requirements and practical examples (February 2020, company course).
- Reporting of measurement results (during testing and calibration) – requirements of BDS EN ISO/IEC 17025:2018 and the current metrological rules. Consideration of the guidelines of international document EA 4/23 INF (2019) on opinions and interpretation of results. Practical examples (August 2020, participants from different laboratories).
- BDS EN ISO/IEC 17043: 2010 – implementation of management system requirements and technical requirements for accreditation of proficiency testing providers (September 2020, participants from Bulgarian Institute of Metrology).
- Setting target measurement uncertainty – assessment and reporting in accordance with the requirements of BDS EN ISO/IEC 17025:2018 (November 2020, company course).

Translation of Eurachem publication in Bulgarian:

- Measurement Uncertainty Arising from Sampling, 2nd edition (2019).

The BULCHEM Section within the Union of Metrologists in Bulgaria continues good collaboration with the Bulgarian Accreditation Service and non-governmental organisations such as CLUB 9000, Union of Quality Specialists in Bulgaria etc.

Dimka Ivanova

Cyprus

The Division of Quality Assurance was established in spring 2014 to operate under the Pancyprian Union of Chemists (PUC). It undertook the role of the Cyprus Eurachem Committee which had been active since 1997. During these 24 years many activities have been organised in Cyprus, some of them in cooperation with Eurachem (especially the Education and Training Working Group) while there was a substantial participation in events abroad.

The impact of the pandemic

A series of activities which had been planned for the year could not be realised after March 2020, due to the change in our lives because of COVID-19 and the measures implemented to face it. As a result, after two successful international training events co-organised with the Eurachem Education and Training Working Group in Nicosia (February 2019 and 2020), plans made for 2021 were postponed for 2022. The pandemic inevitably affected the Quality Assurance Division which, even under these unexpected and difficult conditions, remained active to the extent possible.

Communication with the members

Communication with the members and some of the activities were carried out via virtual meetings. At the same time we made best use of international webinars, among others some were organised by the Hellenic Union of Chemists on specific issues, i.e. drinking water directive, evaluation of Covid-19 spread via analytical data of sewage effluents.

Involvement in the work of Eurachem

The Division was extensively involved in the activities of Eurachem, at various levels. This includes the General Assembly, the Executive Committee and some of the Working Groups (Education and Training, Proficiency Testing) as well as the EA LC Healthcare Working Group. Further to these, there was a contribution to the revision of two guides, i.e. "Guide to Quality in Analytical Chemistry" and "Accreditation for Microbiological Laboratories". The revision of ISO 15189 for clinical laboratories, currently under way, was another important topic. On the occasion of World Water Day a short article (which appeared as a Eurachem Blog article) was drafted underlining the support of Eurachem publications and training material to the implementation of the legislative framework for drinking water. Presentations were made at virtual workshops organised by Eurachem-Romania (July 2020) and Eurachem-Czech Republic (May 2021).

Cooperation with other scientific organisations in Cyprus

The Division is currently promoting the cooperation with the newly established Society of Biological Sciences in Cyprus. The aim is to support the efforts towards activities under 'bioanalysis', one of the tasks of Eurachem as referred to in the 2018-2022 strategy.

Cooperation with countries in the region

The Division is promoting cooperation in the region; this is mainly achieved via training events hosted in Cyprus with the participation of colleagues from neighbouring countries. Some priorities have been decided for translation of leaflets into Greek in cooperation with the Hellenic Eurachem Committee. Recently a member of the Division was invited by Iranian colleagues to a podcast to discuss risk-based thinking and other issues related to ISO/IEC 17025:2017. There is also ongoing cooperation via training activities with countries in the region (Armenia, Belarus, Georgia, Lebanon, Palestine).

Participation in EuChemS

The Division actively participates in the work of the Division of Analytical Chemistry of EuChemS and was represented in the 50th anniversary celebration (3 July 2020).

Website

The activities of the Division appear on the website of the PUC (<http://chemistry.org.cy>).

Kyriacos Tsimillis

Despina Charalambous

Czech Republic

Eurachem Czech Republic has been working as an independent organisation since 1993, currently with almost 70 members. We have close cooperation with the Czech Accreditation Institute (NAB), Eurolab-CZ and the Czech metrological institute.

Eurachem-CZ executive committee members organised this year's Eurachem workshop entitled "Trends & challenges in ensuring quality in analytical measurements" and the General Assembly. Both meetings were run online.

As usual, our activities were focused mainly on education and training. We published a new textbook as the 25th volume of edition KVALIMETRIE (Qualimetrics). This volume is dedicated to sampling uncertainty and consists of two parts. The first part is the official Czech translation of the 2nd edition of the Eurachem/CITAC Guide "Measurement Uncertainty Arising from Sampling". Whereas the second part provides a summary of the results from several proficiency testing schemes focused on sampling of environmental matrices that were organised among Czech and Slovak laboratories. The textbook preparation was co-funded by the Czech Office for Standards, Metrology and Testing. The KVALIMETRIE 25 is freely available from our website, www.eurachem.cz.

The other important activity we held last year was the online workshop on sampling and uncertainty arising from sampling. This workshop, with more than 150 participants, was technically organised by the Czech Accreditation Institute and contained 8 lectures from speakers from Eurachem-CZ, the Czech Accreditation Institute, and some expert laboratories.

Recently we translated one PT information leaflet into Czech – Proficiency Testing Schemes for Sampling.

Eurachem-CZ members participate in two Working Groups – Education and Training and Reference Materials.

Our organisation distributed among our members two issues of the Newsletter with updates and information for our members. Up-to-date information about our activities as well as many freely accessible leaflets are available on our website – www.eurachem.cz.

David Milde

Estonia

Eurachem activities in Estonia are coordinated by the Estonian Environmental Research Centre (EERC). The two national representatives are Riin Rebane from EERC and Ivo Leito from University of Tartu. Eurachem activities in Estonia are strongly connected to the Estonian Centre of Analytical Chemistry (AKKI, <https://www.akk.ee>) network which aims for high quality chemical analysis in Estonia.

Education is a large part of the Eurachem activities in Estonia. Ivo Leito is responsible for annually organising two Massive Open Online Courses (MOOC): "Estimation

of measurement uncertainty in chemical analysis” (<https://sisu.ut.ee/measurement/uncertainty>) and “LC-MS method validation” (https://sisu.ut.ee/lcms_method_validation/), which by now have been organised seven and four times, respectively, and attract hundreds of participants from all over the world every year. Moreover, there is a web-based software for validation for chromatographers – ValChrom (<http://www.valchrom.ut.ee>) – that is almost ready. In addition, AKKI has launched a beta version of a web-based booking system that allows high level analytical chemistry instruments in Estonia to be shared between scientists as well as industry.

Riin Rebane

Finland

During 2020 Finntesting Association/Eurachem Finland had two annual members’ meetings in spring and in autumn. A seminar dealing with qualified testing required by COVID-19 pandemics was organised during the autumn meeting. Presentations were focused on COVID-19 test methods applied in Finland and the most critical performance tests of the respiratory protection masks and surgical masks. Prizes were awarded to the authors of the theses focusing on quality issues in the testing and laboratory sector in 2019.

- Ms Eija Ahonen, University of Turku gave a presentation on her master’s thesis, which received the prize in the university series for her work on the oxidation rate and fatty acid contents of omega-3 supplements sold on the Finnish market.
- Ms Saila Haukkala from Vaasa University of Applied Sciences was also awarded for her thesis on statistical comparison of the suitability of Karl Fischer reagents for moisture determinations of transformer insulation fluids.

In addition to sharing knowledge via seminars, the focus of activities has been towards educational needs. The website of Finntesting Association has been updated and quality related material has been introduced to our members and stakeholders. The national guide by Eurachem Finland for quality related terminology is under review at the moment.

The executive board of Finntesting Association meets on a regular basis and promotes quality related activities; these meetings are currently held virtually due to COVID-19. The Association has nominated members in the Eurachem General Assembly and Eurachem Working Groups. The Association also cooperates nationally and internationally through Eurachem, Eurolab and CITAC activities.

Anna-Liisa Pikkarainen

France

BIPEA is a scientific non-profit organisation including more than 2500 laboratories concerned with quality control and analytical accuracy.

BIPEA’s main activities are focused on education, training and analytical accuracy. We act in the field of laboratory analysis by providing proficiency testing programs under ISO 17043 accreditation (in the fields of food, water and cosmetics) and organising training sessions on analytical topics.

BIPEA is involved in standardisation by collaborating with AFNOR, SNIAA and COOP DE FRANCE for standard validations, and participating in standardisation commissions.

Within the framework of Eurachem, the main activities of BIPEA are:

- Education and Training. From June 2020 until June 2021, BIPEA set up an annual plan of nine training sessions by Visio conference:
 - » three training sessions for “method validation” (October 2020, January 2021 and June 2021);
 - » two training sessions for uncertainty of measurements and exploitation of data from the report (November 2020 and March 2021);
 - » one training session for ISO 17025 (October 2020);
 - » two training sessions for validation of methods in food microbiology according to ISO 16140 (March 2021 and May 2021);
 - » one training session for internal auditors (October 2020).

These training courses of 12 people each were very well appreciated by the participants and included lectures, practical exercises and learning evaluation.

Also, several customised training sessions were made for groups of laboratories in France and Europe.

- Participation in Working Groups and General Assembly:
 - » Ms Caroline Laurent, Director of BIPEA, is a member of the Proficiency Testing Working Group and the General Assembly;
 - » M. Abdelkader Boubetra, Scientific and Technical Manager, is a member of the Method Validation Working Group.
- Translations:
 - » leaflets, guides and other important documents were translated into French.
- Website:
 - » workshops and conferences organised by Eurachem are posted on the BIPEA website (www.bipea.org).

Caroline Laurent

Georgia

The Georgian Laboratory Association (GeLab) was founded in 2013. It has a board with five members and counts over 20 laboratories from both the public and private sectors. The scopes of activities (accreditation) of most of these laboratories mainly include testing related to food and water quality control.

As usual, GeLab’s activities in the past year have also mainly focused on consulting, education and training in accordance with the requirements of accreditation standards (ISO/IEC 17025, ISO15189, as well as ISO/IEC 17020) and, accordingly, on providing assistance in accreditation processes.

Due to the restrictions of the Covid-19 pandemic, usual face-to-face meetings were not possible. Accordingly, training was delivered by the Georgian National TrainMic team using the Zoom platform, which provides an optimal environment for conducting events in direct Q&A mode and enables an opportunity for group work using the 'breakout rooms' option.

GeLab actively uses its Facebook page (Georgian Laboratories Association) and email communication to share news and ongoing Eurachem activities between Georgian laboratories and stakeholders.

GeLab continuously cooperates with the academic sector (Georgian Technical University and Ivane Javakishvili Tbilisi State University), Georgian Accreditation Center (GAC) through membership of the National Accreditation Council, and with the Georgian National Agency for Standards and Metrology (GEOSTM) to effectively meet the needs and expectations of member laboratories. GeLab representatives are members of the GEOSTM technical committees for the translation and adaptation of ISO standards into Georgian (mainly in the field of food control and quality management).

In 2021, GeLab signed a memorandum with the Georgian Packaging Cluster which is interested in laboratory control of packaging materials, as well as with the Interagency Coordination Council of Agriculture and Rural Development of Georgia on the platform of the Civic Committee. This platform aims to promote active relationships and cooperation between relevant government agencies (ministries, departments) and the private sector (entrepreneurs, farmers, exporters, etc.) with relevant sectoral associations including GeLab.

Since 2020, GeLab has been collaborating with UNIDO's Global Quality and Standards Program (GQSP) in Georgia, providing information on the activities, accreditation status and services of various Georgian laboratories (including other conformity assessment bodies such as certification and inspection bodies), for the international databases – LabNet (<https://hub.unido.org/labnet/labfinder>).

The project "Strengthening conformity assessment for fruits and vegetables" is being implemented by the GQSP-Georgia, which is funded by the Swiss Confederation through the Swiss State Secretariat for Economic Affairs (SECO). As part of the project, the UNIDO publication "Tested & Accepted – Implementing ISO / IEC 17025" was translated into Georgian (<https://tii.unido.org/node/2534>), and in collaboration with AIM and EC4LE several training courses on Quality Management and metrology were conducted for representatives of Georgian laboratories, where the materials from Eurachem guides were actively used.

According to a value chain study, within the framework of the project conducted by the Berne University of Applied Sciences (BFH), one of the main recommendations for the project is to support GeLab in its institutional development, which mainly includes: increasing the technical, service and management capacity of laboratories, creating a website for the promotion of the association's services, high-quality translation of relevant documents (International standards, Eurachem Guides, etc.) for laboratories, etc.

Nino Manvelidze

Germany

The EuroLab-D Chemical Analysis Committee, the German Eurachem mirror committee, met only once since the last Eurachem General Assembly, in October 2020. This meeting was organised as a web conference.

In this meeting information from Eurachem and its Working Groups was distributed and discussed.

In the past year the following Eurachem publications were translated into German:

- Metrological Traceability in Chemical Measurement – 2nd Edition;
- Planning and Reporting Method Validation Studies – Supplement to Eurachem Guide on the Fitness for Purpose of Analytical Methods;
- Blanks in Method Validation – Supplement to Eurachem Guide on the Fitness for Purpose of Analytical Methods;
- Use of Surplus Proficiency Test Items (leaflet);
- How to Investigate Poor Performance in Proficiency Testing (leaflet);
- PT Schemes for Sampling (leaflet).

We are still in the process of translating the Sampling Uncertainty Guide.

EuroLab-D is happy that its member Dr Leist was delegated by EuroLab AISBL to serve on the ISO committee on the revision of ISO/IEC 17043.

The Sensory Working Group has adopted new methods for the collection of methods for sensory testing of food contact materials.

Due to the pandemic situation, activities were somewhat limited in the last year.

Michael Koch

Jan Sunderkötter

Greece

Efforts were focused on increasing the participation of Greece in Eurachem Working Groups, so new members were proposed and accepted in some of the Working Groups. This is a fundamental method that can increase the interest and the responsiveness for Eurachem documents and activities and promote interaction. In particular, the new members of the Eurachem Greece team were active as follows:

- Greece's representative, Professor Georgios Theodoridis, Department of Chemistry, Aristotle University Thessaloniki, National – set up a blog to establish communication with the team and other Greek scientists.
- Method Validation Working Group – Helen Gika, Aristotle University, and Marios Kostakis, Athens University. Participation in two online meetings of the Working Group in 2021 and collaboration in editing documents.

- Measurement Uncertainty and Traceability Working Group – Zonaras Vasileios, Benaki Phytopathological Inst. Participation in eight web meetings in 2020 and 2021, attendance at the IUPAC/CITAC web-seminar “Metrology, Quality & Chemometrics – Correlation of Test Results & Mass Balance Influence on Conformity Assessment” and the Eurachem MUTWG web-meeting (Eurachem/CITAC Guide “Use of Uncertainty Information in Compliance Assessment”, 2nd ed. 2021). Eurachem/ CITAC Guide “Use of Uncertainty Information in Compliance Assessment”, 2nd ed. 2021 (co-working).
- Sampling Uncertainty Working Group – Achilleas Iakovakis, Agrolab RDS Sindos, Zonaras Vasileios, Benaki Phytopathological Inst.
- Reference Materials Working Group – Dr Christina Virgiliou, Aristotle University.

Our plans for the future are to aim for higher involvement in Eurachem actions and more active involvement in the Eurachem Working Groups. The Eurachem Greece team is planning an open day to be organised with the support of the Association of Greek Chemists, to inform the community about the guidance and documentation from Eurachem. We discussed an online event with polling options to collect data from questionnaires about the needs of chemists working in analytical laboratories. The event is planned for autumn 2021 and will commence in the Greek Language. We are also considering/discussing inviting colleagues from Cyprus.

We are in discussion with the organisers of the 12th International Conference “Instrumental Methods of Analysis” (IMA-2021) http://aclab.web.auth.gr/ima2021/#xl_xr_page_index. We proposed a round table discussion.

Overall, the Greek participants are active in various fields of analytical chemistry, validation and metrology.

- The Hellenic Metabolomics Network and FoodOmicsGR_RI consortium which are headed by G. Theodoridis co-organised three online meetings in 2021 with participation reaching an average of 200 researchers. One of these events was co-organised with MetrofoodRI (<https://www.metrofood.eu/>) a European research infrastructure aiming to provide high-level metrology services in food and nutrition. Topics covered included QA/QC in metabolomics, lipidomics analysis, standardisation through the analysis of reference standards. Lecturers and audience included renowned scientists from Imperial College UK, Merck, CERTH, FEM, Italy, Agricultural Univ. Athens, Aristotle University and other Universities (<https://hellenicmetabolomics.gr/>).
- FoodOmicsGR_RI, a National Research Infrastructure aiming to characterise food and support R&D in the agrofood sector, organised an online presentation with attendance from more than 600 participants (in Greek) in December 2020.
- G. Theodoridis and H. Gika are active members in the Metabolomics QA & QC Consortium (mQACC), an international think tank aiming to develop collaborative efforts to address key quality assurance (QA) and quality control (QC) issues in untargeted metabolomics. G. Theodoridis is now Co-Chair of the Best Practices workgroup of the mQACC.

Hungary

Since the end of 2018, the Cluster of Hungarian Accredited Organisations (ASZEK) has acted as the Hungarian national Eurachem organisation. ASZEK plays a central role in disseminating information to and gathering feedback from the Hungarian accredited community on materials circulated by Eurachem and other international organisations in the field of accreditation.

2020 activities were heavily influenced by the SARS-CoV-2 outbreak. The annual ASZEK conference had to be cancelled due to the pandemic. Remote assessment became commonplace in the accreditation process, aided by the modification of procedural regulations of the National Accreditation Authority (NAH). Experts from ASZEK members actively contributed to the renewal of regulations.

Despite the obstacles, transition to the ISO/IEC 17025:2017 standard is proceeding according to plan; over 90% of organisations concerned have already been accredited to the new standard. The National Accreditation Authority (NAH) also held several online training events and seminars throughout the year, predominantly aimed at accreditation assessors and experts.

Two delegates are active in the Proficiency Testing Working Group, Dr Erika Sárkány (also a representative of EQALM) and Dr Csilla Bélavári. Dr Sárkány is additionally delegated to EEE-PTWG “Proficiency Testing in Accreditation”.

Csilla Bélavári

Ireland

The Eurachem Ireland Committee comprises people interested in analytical chemistry from the public sector, private sector and the academic sector. Despite the Covid-19 restrictions, the committee remained active with initiatives to continue to promote interest in analytical chemistry in line with Eurachem objectives.

Sponsorships

Eurachem Ireland sponsored a prize at the Institute of Chemistry of Ireland Postgraduate Chemistry Research Symposium in September 2020. Over 150 delegates took part, and the winner of the **Eurachem Prize for Best Flash Presentation** was Fiona Gordon from NUI Galway.

We also sponsored a prize at the Environ 2020 Conference of the Environmental Sciences Association of Ireland in October 2020. The winner of the **Eurachem Best Analytical Chemistry Poster** was Stuart McMichael (pictured) of the University of Ulster.



Eurachem Analytical Measurement Competition

Unfortunately, this very popular competition could not take place in April as usual. This annual event is organised and run by the EAMC Committee, Eurachem Ireland Secretariat, and by a host Institute of Technology or University. It is a competition for second year students and is always very well subscribed to. We hope to be in a position to run the competition in 2022.

Working Groups

Ireland is well represented on Eurachem Working Groups and, in fact, we have increased our representation in the last year.

Communication & Publicity

Eurachem Ireland communicates with its members via:

- Mailing list: This is an important tool for our communication. Eurachem Ireland publicises all Eurachem notifications, courses, workshops, newsletters and items of general analytical interest (in a GDPR compliant manner) to people on the mailing list;
- Website www.statelab.ie/eurachem.html;
- LinkedIn group <https://www.linkedin.com/groups/8259308/>;
- Twitter @EurachemIreland.

Hugh Fay

Italy

Italy is represented in Eurachem by the National Institute of Health (ISS) and the National Institute of Metrological Research (INRIM). In December 2020 a change in the Italian representation happened and Francesca Rolle (INRIM) succeeded Michela Sega (INRIM) and joined Marina Patriarca (ISS) as an Italian delegate to General Assembly.

Collaboration is in place with other relevant national organisations, such as the Italian Accreditation Body (ACCREDIA), the Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), the Institute for Environmental Research and Protection (ISPRA), the national representative of EUROLAB (ALPI) and a number of organisations at regional level.

Active contribution was made by experts from Eurachem-Italia to the Eurachem Working Groups on Education and Training, Proficiency Testing, Method Validation, Reference Materials, Measurement Uncertainty and Traceability, and Qualitative Analysis, as well as the joint EA-Eurolab-Eurachem Working Group on Proficiency Testing in Accreditation.

Activities of Eurachem-Italia mainly focus on contributing to Eurachem guidance and its promotion to analytical laboratories at all levels, in particular by providing translations into Italian of Eurachem Guides and leaflets.

During the last year, Eurachem-Italia contributed to the revision of the Eurachem Guide on "Selection, Use and Interpretation of Proficiency Testing (PT) Schemes by Laboratories" (2021), the Eurachem/CITAC Guide on "Use of Uncertainty Information in Compliance Assessment" (2021) and to the development of the leaflets on "Proficiency Testing Schemes for Sampling" and "The Importance of Method Validation". The leaflet "Proficiency Testing Schemes for Sampling" was also translated into Italian, by the members of the PT Working Group and is available on the Eurachem website.

Ongoing activities include the translation of the two supplements to the Eurachem Guide "The Fitness for Purpose of Analytical Methods", dealing with the aspects of "Planning and Reporting Method Validation Studies" and

"Blanks in Method Validation" and the translation of the Guide on "Measurement Uncertainty Arising from Sampling", undertaken jointly with ACCREDIA, EUROLAB (ALPI), INRIM, ISPRA and ISS.

Information on Eurachem initiatives, new guidance and upcoming Eurachem events was promoted through distribution via mailing lists and to relevant organisations. Printed and electronic copies of the latest Eurachem Newsletter were also distributed to interested parties. The website of Eurachem-Italia is currently being restructured.

Marina Patriarca

Francesca Rolle

Lithuania

Due to the COVID-19 pandemic outbreak some activities were postponed and some were cancelled.

Two face-to-face meetings and one online were organised. There were also consultations for the routine laboratories (accreditation issues, quality assurance, uncertainty calculation and conformity assessment, risk approach, assuring of metrological traceability and using of CRMs). Communication with stakeholders (NAB, Standardisation Body and others) was also maintained.

There was continued dissemination of information about Eurachem activities, guidance documents and leaflets.

Evaldas Naujalis

Poland

Presently, 108 laboratories are members of the Eurachem-PL section of the Polish Chemical Laboratories in the Club of Polish Testing Laboratories, POLLAB. Several members join this section each year. Since 18.12.2013 Eurachem-PL has been led by Andrzej Brzyski (Chair), Ewa Bulska (Vice-Chair), and the section secretariat is hosted by the secretariat of POLLAB.

Members of the Section are involved in the organisation of symposia held every year by POLLAB, but 2020 was difficult due to the Covid-19 pandemic we were unable to organise a symposium.

We organised only an online section meeting, including invited lectures dedicated to selected subjects. In 2020 participants discussed the requirements for laboratories resulting from the standard PN-EN ISO/IEC 17025:2018.

We also organised some online training courses for our members. These courses are very popular, with many people attending them.

We cooperate with the Polish Centre for Accreditation to improve the management system in laboratories.

Eurachem-PL will be continuing to present policy to support laboratories in 2021. Our members will be attending Symposium POLLAB, section meetings and new PT/ILC programs.

Andrzej Brzyski

Portugal

In 2020, the Portuguese delegates were actively involved in the activities of the Measurement Uncertainty and Traceability, Qualitative Analysis, and Education and Training Working Groups.

Eurachem-PT collaborated with ForMEQ and RELACRE (GT5 – Chemical Metrology) to translate into Portuguese the Eurachem/CITAC guide on “Setting and Using Target Uncertainty in Chemical Measurement”.

At this moment, Eurachem-PT is collaborating with RELACRE (GT5 – Chemical Metrology) and ForMEQ on the translation of the Eurachem/CITAC guide on “Measurement Uncertainty Arising from Sampling” (2nd edition).

The dissemination of Eurachem activities and guidance has also been performed in teaching Metrology in Chemistry at the University of Lisbon, “International Summer School on Analytical Science, Metrology and Accreditation” and other training promoted by Eurachem-PT members.

The publication of various papers on analytical chemistry and metrology has also been used to publicise Eurachem guidance.

Ricardo Bettencourt da Silva

Romania

The Eurachem-Romania Association is an independent non-profit organisation established in 2000 to promote and support the Eurachem principles and bridge the gap between analytical chemists in our country and those involved in the quality of measurements in chemical analysis laboratories and beyond.

The organisation continued, through its members from different institutions, to promote the activities related to method validation and metrology in analytical chemistry.

Since its establishment, all Eurachem members have had the opportunity to interact directly in the annual General Assembly. For the year 2020, this significant yearly meeting for the good functioning of Eurachem was to take place in Bucharest, at the Polytechnic University of Bucharest, between 25-29 May 2020. At the same time, an international workshop was scheduled associated with this General Assembly. Eurachem and UPB.

Under the conditions created worldwide by the Covid-19 pandemic, these works were cancelled. However, the national organisation Eurachem-Romania and UPB decided that the annual General Assembly of Eurachem would be hosted virtually by the Romanian Eurachem organisation. The virtual event dedicated to the Eurachem General Assembly took place on 27-28 May 2020, being a real success for the Romanian team. It was the first event organised online for Eurachem. The participation was impressive, with all member countries present for the first time. As usual, a discussion forum was also included in the General Assembly.

As a continuation of the online events dedicated to Eurachem 2020 Week, on 14-15 July 2020, the workshop “Quality assurance for analytical laboratories in the university curriculum” was held.

Within the Eurachem-Romania Association the continuous supporting of the students’ professional activity under the specific conditions of the Covid-19 pandemic has been discussed and established. As a consequence, Eurachem-Romania Association was involved in co-organising the Students Scientific Communications 2020. In the meantime, two short online courses on metrology in analytical chemistry were organised.

Eugenia Eftimie Totu

Russia

2020 for all countries was a year of revelation in consciousness and constraint in work. Many projects have been put on hold. Gradually, however, the epidemiological situation is improving and gives careful hope for renewal of interrupted activities.

Eurachem in Russia is represented by the Association of Analytical Centers “Analitica”, a professional non-profit organisation that also performs the functions of ILAC accreditation body. This year the Association celebrated its 30th anniversary. Over the years, close contacts have been established with international organisations (ILAC, CITAC, Eurachem), a large number of professional events have been held, educational and training programs have been implemented, and analysts from various fields have been united.

The most relevant areas of the Association’s work are the development of a practical and methodological approach to qualitative analysis, since individual successful attempts to establish a unified approach to methods for determining individual groups of qualitative properties do not solve the problem as a whole.

The second important aim is the creation of a complex of metrological support for identification methods and nutritional value measurements for food products and food raw materials. More than 40 types of standard samples of the composition of food products, food raw materials and food additives have been produced for identification of food products for compliance with the requirements of the Technical Regulations of the Customs Union.

The concept for the development of reference materials is consistent with the AOAC Food Composition Triangle. Further plans of the Russian delegates are to continue the translation of Eurachem documents and publicise Eurachem activities around the country.

Vasilisa Baranovskaia

Maria Medvedevskikh

Spain

As a result of the SARS COVID pandemic, like other activities, those related to Eurachem have been affected.

Eurachem Spain, is integrated into the daily operations of EUROLAB-Spain and FELAB, and all EUROLAB-Spain partners have been regularly informed of all the information generated by Eurachem, through circulars and newsletters.

Members of Eurachem Spain are active in a number of Working Groups:

- Pedro Pablo Morillas and Francisco Raposo in the Method Validation Working Group;
- Pedro Pablo Morillas in the Education and Training Working Group;
- Raquel Murtula in the Proficiency Testing Working Group;
- Estibaliz Sastre in the Reference Materials Working Group.

A number of Guides have also been translated into Spanish:

- Measurement Uncertainty Arising from Sampling (2nd edition, 2019);
- Metrological Traceability in Chemical Measurement (2nd edition, 2019).

Through FELAB there have been several meetings with the National Accreditation Body (ENAC) about different complementary documents that are applicable in the accreditation processes of the different sectors.

Alfonso González del Rey

Pedro Pablo Morillas

Serbia

The Directorate of Measures and Precious Metals (DMDM), which is a National Metrology Institute of Serbia, represents Eurachem and its activities in Serbia.

In 2020 DMDM continued to participate in legislation processes by preparing a proposed draft of the medical devices parts with measuring function regulations, that were adopted by the Parliament of Serbia.

Serbia Eurachem representative also actively participated in the work of the Institute for Standardization of Serbia, as a member of the Technical Committees for Air quality, Medical devices, Petroleum fuels and Natural gas. The translation of several ISO standards was carried out in 2020, in all mentioned fields of standardisation.

As Eurachem representatives, we are closely collaborating with the Accreditation Body of Serbia, at different seminars and events.

DMDM also participated in many virtual training events and seminars, such as the one held by the BIPM (for monitoring of ozone in the environment), and the seminar organised by the PTB Technical Cooperation, on PT schemes, for the SEE countries.

Within the framework of the LIGNOCOST project, work on immobilisation of laccase onto lignin micro-spheres and their use for environmental pollutants removal was presented by the Eurachem national representative for Serbia at the

online training event in October 2020, which had over 90 participants worldwide.

Many international relevant guidance documents in metrology, such as new VIM, ILAC and OIML recommendations were discussed in 2020.

The electronic copies of Eurachem Newsletter Issue 38 were distributed to analytical laboratories in Serbia.

In 2020, the Eurachem national representative for Serbia participated in the Eurachem General Assembly, for the first time, after becoming a full member of Eurachem in Tartu, 2019. For Serbia, becoming a full member was a great honour and we would like to thank all of the members of the Eurachem General Assembly for that.

Jelena Bebić

Sweden

The General Assembly representatives from Sweden are Bertil Magnusson and Elvar Theodorsson. There is also representation in Working Groups by Eskil Sahlin and Ulf Örnemark.

They have run well attended meetings within EuroLab-Eurachem-Sweden and run the RISE ISO 17025 three-day course, which had 100 participants/year. This course makes several references to Eurachem guidance.

Bertil Magnusson

Switzerland

Eurachem-CH is hosted by the Division of Analytical Sciences (DAS) of the Swiss Chemical Society (SCS). The DAS has around 600 members. The members of the board represent academia, administration and industry. SCS is a full member of EuChemS and of Chemistry Europe. The DAS is a member of EuChemS Analytic (Analytical Chemistry Division and Division of Chemistry and the Environment) and co-owner of the journal Analytical and Bioanalytical Chemistry. EuChemS selected the DAS as conference organiser of XXII EuroAnalysis 2023.

Since the foundation of the DAS the organisation of seminars and training courses in the fields of special analytical techniques, spectroscopy, separation technology and quality assurance is the core competence of the division. From the total of almost 60 courses about 15 are related to quality assurance. The courses cover the needs of accredited and regulated laboratories.

The proclamation of the Coronavirus pandemic had a tremendous impact on the activities of the SCS and DAS. The SCS General Assembly Spring Meeting and the CHanalysis, the forum to stimulate a stronger cooperation among persons working in the different areas of analytical sciences, were postponed. Almost all training was stopped. Some selected training courses were switched from on-site to remote delivery. The same happened with other activities of SCS and DAS. The trainers had to become familiar with video conferencing tools in a very short time. The training material had to be adopted. In the second part of 2020 it became possible to run some training courses via the internet, e.g. on equipment qualification, method validation and IT validation.

It was an interesting experience for the trainers and for the participants. At the end the goals of the courses could be achieved and the participants were satisfied.

In the first months of 2021 the vaccination of the Swiss population was developing well. In June two courses will take place in Zurich face-to-face, unless there are unpleasant surprises such as aggressive mutations of SARS-CoV-2. The topics will be instrument qualification and analytical method validation.

Eurachem Switzerland is currently active in the Working Groups on Method Validation and on Reference Materials.

Ernst Halder

Turkey

In the 2020-2021 reporting period, Eurachem Turkey has been involved in the activities of the Education and Training Working Group, Method Validation Working Group and Proficiency Testing Working Group. Eurachem Turkey acted as a member of the TURKAK PT committee and is involved in the activities within the committee.

The Eurachem leaflets "Use of Surplus Proficiency Test items", "How to Investigate Poor Performance in Proficiency Testing", "PT Schemes for Sampling" and "The Importance of Method Validation" were translated into Turkish and published on the Eurachem web page.

Eurachem Method Validation Working Group members from Turkey participated in the web meeting on 7-8 April 2021. The members are involved in the revision of Eurachem Guide "The Fitness for Analytical Methods". The Eurachem Proficiency Testing Working Group member participated in the web meeting on 24-25 April 2021.

The training on metrology in chemistry, estimation of measurement uncertainty in chemical measurements and method validation was given by Eurachem representatives to the end users from national and international laboratories performing chemical measurements.

Oktay Cankur

Ukraine

Due to COVID-19 restrictions, our activities from early spring 2020 till now have been realised mostly online. Within this period, Eurachem-Ukraine has been involved in organising several events; among them were the workshops "Proficiency testing by interlaboratory comparisons" and "Interlaboratory comparisons with a small number of participants as a tool to demonstrate the competence of laboratories". Our representatives have also contributed to the workshop "Preparation and interpretation of calibration certificates according to the requirements of the ISO/IEC 17025:2017 standard" organised by PTB, the German National Metrology Institute, and participated in some other events. These included: the 8th Scientific and Practical Conference "Development of the Quality Assurance System for Clinical Laboratory Studies in Ukraine", Kyiv, Ukraine; a webinar on measures to reduce the consumption of controlled substances and control substances destruction technologies, EU/UNDP EU4 Climate Project; online training on ISO/IEC 17043:2010 of the PTB project "Using

synergies within the countries of the Eastern Partnership in the field of Quality Infrastructure – ACCREDITATION"; the 4th International scientific conference "Reference materials in measurement and technology", Saint Petersburg, Russia; and the COOMET webinar "The Role of Measurement Uncertainty in Conformity Assessment Decisions in Legal Metrology".

In April 2021 Ukraine has received an official notification of Ukraine's full membership in the International Organization of Legal Metrology (OIML). It is a further important step on the way to comprehensive involvement in the global metrological community, following joining the Metre Convention in 2018 and subsequently obtaining the status of the official observer in the CCQM by Ukrmetrteststandart, which is the leading Ukrainian institute in the area of metrology in chemistry, in 2019. In April 2021 our representatives took part in the 26th CCQM meeting, as well as in the meetings of the CCQM Working Groups on gas analysis (GAWG) and electrochemical analysis (EAWG) in 2020 and 2021.

Another part of our work is a contribution to the development of the international standards in the ISO technical committees related to the metrology in chemistry: ISO/TC 158 Analysis of Gases and ISO/TC 193 Natural Gas; we also represent Ukraine in ISO/REMCO, now re-established as ISO/TC 334 Reference Materials.

We have continued participation in the Working Groups of the Metrology Commission of the Inter-State Council on Standardization, Metrology, and Certification on health care, interlaboratory comparisons, and reference materials.

Since June 2020 we have translated two Eurachem leaflets into Ukrainian: "How to Investigate Poor Performance in Proficiency Testing" and "Proficiency Testing Schemes for Sampling". The translations are available from the Eurachem website.

Eurachem-Ukraine is represented in the Eurachem Measurement Uncertainty and Traceability Working Group and Qualitative Analysis Working Group.

Mykhailo Rozhnov

Ovsiy Levbarg

UK

Eurachem activity in the UK is coordinated between the Royal Society of Chemistry Analytical Division, mainly through the Analytical Methods Committee (AMC), and LGC which leads the UK Chemical and Biological Metrology programme. The AMC (<http://www.rsc.org/AMC/>) has several expert Working Groups, all concerned with aspects of harmonisation and best practice in analytical chemistry.

This year the AMC celebrated the publication of the 100th AMC Technical Brief. Produced by AMC Expert Working Groups and published in *Analytical Methods*, AMC Technical Briefs keep the community informed with developments in analytical science and promote quality in analytical measurement. Topics covered by the Technical Briefs include experimental design and optimisation, sampling uncertainty and multivariate analysis.

Technical Briefs are published as a themed collection by the RSC journal "Analytical Methods" and are available online; they can also be found by following the "Technical Briefs" link on the AMC webpage at <https://www.rsc.org/amc>. A brief article about the 100th brief can be found at <https://www.rsc.org/news-events/community/2021/jan/100th-technical-brief/>.

Six Technical Briefs were published in the year June 2020-May 2021, including:

- AMCTB 97: Thermal desorption part 1: introduction and instrumentation
- AMCTB 98: X-ray micro computed tomography in cultural heritage
- AMCTB 99: Units and quantities for analytical chemistry (background paper)
- AMCTB 100: Multivariate statistics in the analytical laboratory (1): an introduction
- AMCTB 102: Simplex optimisation in practice
- AMCTB 101: Analysis of historical dyes in heritage objects.

Members of the AMC regularly receive the Eurachem Newsletter and information on Eurachem activity. Eurachem information is also promulgated widely through the MyRSC online chemistry community.

A new Eurachem-AMC working arrangement between the RSC AMC Sampling expert Working Group (EWG) and the Eurachem Sampling Uncertainty Working Group allows the two groups to prepare joint documents; the AMC EWG will assist with relevant Eurachem information leaflets and the Eurachem Working Group will, similarly, provide additional technical comment to draft AMC Technical Briefs from the group, while Eurachem and the AMC retain overall ownership of the respective types of document. The recently published Eurachem information leaflet explaining the Uncertainty Factor is the first Eurachem/AMC joint document to be published.

Activities associated with the UK Chemical and Biological Metrology programme are described on the LGC website at <https://www.lgcgroup.com/uk-national-measurement-laboratory/>.

This work contributes to maintenance of the UK National Measurement System (see <https://www.gov.uk/government/publications/national-measurement-strategy> for details).

Activities of particular interest to Eurachem in the year ending May 2021 include a range of training courses, including courses on measurement uncertainty, analytical method validation and statistics for analytical chemists. The programme also provides guidance documents and reports; some of these can be found at <https://www.lgcgroup.com/our-impact/> under "Best practice guides".

Eurachem UK members have also contributed actively to the following Eurachem Working Groups:

- Education and Training
- Measurement Uncertainty and Traceability (Chair)
- Proficiency Testing (Chair)
- EEE Proficiency Testing – "Proficiency Testing in Accreditation" (Chair)
- Qualitative Analysis
- Uncertainty from Sampling
- Method Validation
- Reference materials.

Steve Ellison

Chris Harrington

EUROPEAN COMMISSION JRC

There has been work in the allergens area, where there is no comparability between methods because of differences in measurand definition. A number of publications, documents and standards are in progress, including one on a LC-MS method for the detection of food allergens, and an additional published paper from an interlaboratory comparison which established a reference value for protein in cookies.

PT schemes have been significantly affected by the pandemic, with the number of PT schemes organised having been reduced. One PT round on GM in maize flour and one on urea in pet feed has been organised but a number of others have been delayed. There have been a number of successful guides and standards published, including a guide on measurement uncertainty for GMO testing laboratories.

The JRC issued a number of reference materials, including EURM-020 which is a qualitative reference material (Atlantic halibut certified for identity) used for food fraud testing. The JRC has been developing quality control materials for Covid PCR tests and antibody testing. They have also updated the European database for in-vitro COVID-19 diagnostic devices and test methods which showed that the number of test methods had increased significantly.

Hendrik Emmons

Upcoming events

Eurachem Week 2022

Due to ongoing uncertainty caused by the global pandemic, the scientific workshop and the General Assembly in 2022 will take place on 16-21 May online, hosted by GeLab, Georgia.

The scientific workshop “Quality Assurance Challenges of Measurements from Field to Laboratory with a Focus on ISO/IEC 17025:2017 Requirements” will start on Monday 16 May 2022 for three days, and will address current practices, challenges, and future recommendations on quality assurance of the chemical and microbiological measurement methods and their validation, including sampling-related issues.

This workshop will be of direct relevance to anyone who is focused on the quality of analytical measurements and reliability of decisions based on test results in accordance with ISO/IEC17025 requirements, taking into account the influence of factors that exist outside the laboratory environment.

Registration is now open at:

https://gelab.org.ge/en/Event/Eurachem_2022

Tamar Labartkava (Committee Chair) and Nino Manvelidze (Eurachem national representative) will be very pleased to welcome you to this online event.



10th Workshop on Proficiency Testing in Analytical Chemistry, Microbiology and Laboratory Medicine

Windsor (UK), 25-28 September 2023

The Eurachem Proficiency Testing Working Group, in cooperation with CITAC (www.citac.cc) and EQALM (www.eqalm.org), is organising the 10th event of a series of Workshops addressing current practice and future directions of proficiency testing (PT) and external quality assessment (EQA) in analytical chemistry, microbiology and laboratory medicine.

Venue

The workshop will take place at the De Vere Beaumont hotel in Windsor, a town on the River Thames in southeast England, just west of London. It is home to Windsor Castle, a residence of the British Royal Family, built by William the Conqueror in the 11th century. The story of De Vere Beaumont Estate in Old Windsor is a very British one; a tale of democracy, royalty, education and religion. At its heart, sits an 18th-century mansion, a chapel, 75 event spaces and a Georgian white house in 40 acres of parkland grounds. The original house was built for Lord Weymouth but it was during its time as a public school, from 1854-1967, that saw most of the estate's architectural developments.

Technical Programme

The workshop will be structured to include training sessions, keynote lectures, short presentations, Working Group discussions and poster sessions, to enable interactive participation and cross-fertilisation of ideas. The official language of the workshop will be English. Invited lectures and accepted presentations/posters will be considered, through peer-review, for publication as full papers as a topical focus in an issue of Accreditation and Quality Assurance (Springer Verlag).

Training sessions

Four training sessions, which are open to workshop delegates, will be held on the following topics:

- Basic statistics
- Further statistics
- PT scheme design
- Ensuring the quality of proficiency test items
Lectures and Working Group Topics
- Revision of ISO/IEC 17043
- Guidance on different methods for setting the standard deviation for proficiency assessment
- Collusion or falsification of results in PT – why does it happen and how can it be prevented
- Comparisons of synthetic vs real PT items
- Emerging trends in PT
- Risk analysis approach for PT participation

Who should attend?

The workshop will provide an excellent opportunity for PT/EQA scheme organisers, and end-users of PT/EQA (laboratories, accreditation bodies, regulators and the laboratories' customers) to come together and share their views.

Registration and more information at
<https://eurachem-pt2023.org/>

Workshop Secretariat

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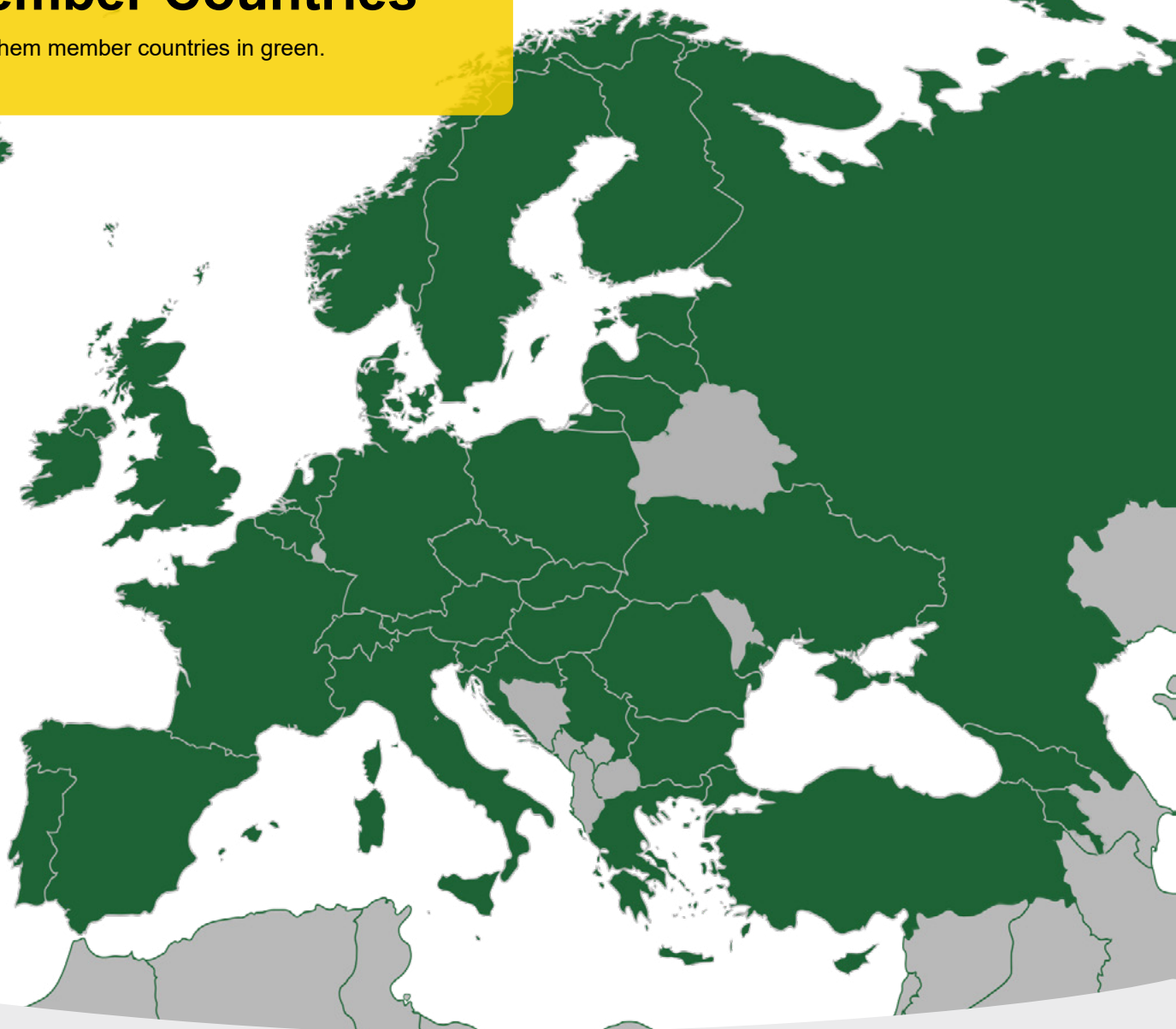
Eurachem week 2023

22-26 May, Bern, Switzerland

To be hosted by Eurachem Switzerland with METAS and the Division of Analytical Sciences of the Swiss Chemical Society (DAS)

Member Countries

Eurachem member countries in green.



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To get involved in Eurachem in your nation, contact the Eurachem secretariat for details on how to contact your national representatives or visit the Eurachem website www.eurachem.org.



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