

1. General Aspects

The Technical Committee for Metrology in Chemistry (TC-MC) and its four Sub-Committees (SCs) for Inorganic Analysis (SCIA), Organic Analysis (SCOA), Electrochemical Analysis (SCEA) and Gas Analysis (SCGA), are very active in EURAMET comparisons and projects. A big amount of work is also carried out in Joint Research Projects (JRPs) in the framework of the European Metrology Research Programme (EMRP). The sixth meeting of EURAMET TC-MC was held in Braunschweig, Germany, hosted by PTB, from 5th to 8th February 2013. All the four SCs had separate meetings on the first two days of the conference and a TC-MC plenary meeting was held on 7th–8th February. About 100 representatives from various European NMIs/DIs participated in these meetings. An extra day on 4th February 2013 was reserved for the periodic meetings of EMRP projects in which a big participation of stakeholders was recorded.

Dr. Béatrice Lalere (LNE) was nominated as the new convenor of the Sub-Committee for Organic Analysis in the plenary meeting. She replaces Gavin O'Connor (previously LGC, now IRMM), who had acted as the convenor of this SC for four years (two mandates).

2. Projects

There are currently 16 active projects, 14 of which are comparisons and 2 are research projects. They are mainly carried out in the field of gas analysis. Detailed information on the projects is given in the TC-MC project webpage. In 2013, 6 new projects were initiated.

Year	project started	completed projects
2003	5	4
2004	4	3
2005	5	4
2006	8	3
2007	4	4
2008	4	3
2009	3	3
2010	3	4
2011	9	8
2012	-	1
2013	6	-

3. Comparisons

7 EURAMET.QM Supplementary Comparisons and 8 Key Comparisons are registered in the BIPM KCDB:

EUROMET.QM-K1.c: completed
EUROMET.QM-K3: completed
EUROMET.QM-K4: completed
EURAMET.QM-K4.1: completed
EUROMET.QM-K17: completed
EURAMET.QM-K12: completed (Draft B, final report in progress)
EURAMET.QM-K16: ongoing
EURAMET.QM-K26.a: ongoing
EUROMET.QM-S1: completed
EUROMET.QM-S2: completed
EUROMET.QM-S3: completed
EURAMET.QM-S4: completed

EURAMET.QM-S5: ongoing
EURAMET.QM-S6: planned
EURAMET.QM-S7: planned

About the 80% of such comparisons is carried out in the gas field.

4. CMCs

In 2012, 96 new, 138 revised and 77 re-reviewed claims have been proposed by EURAMET members in the regional CMC review process under Cycle XIII. 88 of the new claims, 138 revised and 77 re-reviewed claims were submitted to the interregional review process. These claims were submitted by 20 NMIs and DIs from 15 countries covering 10 categories (1, 2, 4, 5, 7, 8, 10-13). The collated claims from all sub-committees inorganic, gas, organic and electrochemical together with the claims for the bioanalysis area were sent to JCRB on the 23rd of February 2012. A number of claims already submitted under Cycle XII but to be reviewed in Cycle XIII were also considered.

The claims were divided into Fast Track (FT) and Non Fast Track (NFT) ones. 71 EURAMET FT new claims were posted in September 2012 in the KCDB. The EURAMET NFT claims comprise 17 new CMCs and 294 revised/re-reviewed ones (including 41 withdrawn claims) which have been published in the KCDB only in April 2013.

EURAMET experts also took part in the inter-regional review leading to the publication in the KCDB of more than 1000 claims of Cycle XIII from APMP, AFRIMETS, COOMET and SIM.

New cycle, Cycle XIV:

A review of new claims as well as a re-review of a range of existing claims was carried out under cycle XIV of the CMC claim period. The files and accompanying documents were received by the relevant SC convenors and discussed and evaluated by the SCs and appointed reviewing experts from different NMIs. The evaluation was completed during Sub-Committee meetings on 5th–6th February 2013. 66 new and 88 revised and re-reviewed claims (28 of which were withdrawn) have been proposed by 15 NMIs and DIs from 12 countries covering 8 categories (1, 2, 4, 5, 7, 10, 11, 15). A number of claims of cat. 11 (Food) already submitted under Cycle XIII, but to be reviewed in Cycle XIV were also considered.

The complete set of CMCs after the intra-regional review was sent for inter-regional review on the 22nd February 2013, together with all the relevant additional information.

EURAMET experts are currently taking part in the inter-regional revision process of claims from APMP, AFRIMETS, COOMET and SIM.

5. Activities of the Sub-Committees

Meetings of all Sub-Committees were conducted together with the TC-MC plenary meeting in Braunschweig from 5th to 8th February 2013. The work in the SCs deals with CMC claims, both new and revised ones, and on EURAMET and EMRP projects.

A review of new claims as well the obligatory re-review of a range of existing claims was carried out under cycle XIV of the CMC claim period and completed during the SC meetings.

During the meetings, running EURAMET projects, together with proposals for new ones were discussed in details in all SCs. In addition, discussions were carried out also on running EMRP projects, new EMRP projects and also proposals for upcoming EMRP calls.

6. Participation in EMRP

The ongoing European Metrology Research Programme (EMRP) is now a dominant factor in the work and prospect of TC-MC, which is strongly involved in the EMRP process. TC-MC members participate in about 15 running projects in all the EMRP research fields, i.e. “Energy”, Metrology for Environment”, “Metrology for Industry”, “Health”, “SI broader scope”, New technologies.

Periodic meetings of the JRPs ENV01 “MACPoll-Metrology for chemical pollutants in air”, ENV05 “OCEAN-Metrology for ocean salinity and acidity”, ENG09 “Biofuels – Metrology for biofuels”, HLT05 “Metallomics – Metrology for metalloproteins”, ENV08 “WFDtraceability – Traceable measurements for monitoring critical pollutants under the European Water Framework Directive (WFD-2000/60/EC)” limited to WG1, ENG01-WP1

“Characterisation of energy gases” were carried out on 4th and 5th February in Braunschweig prior to the TC-MC meeting.

Chemical aspects related to the upcoming EMRP calls were addressed in a workshop held on 7th February, that was opened by a presentation on EMRP and EMPIR given by Joern Stenger. Ideas for research topics were presented and discussed. The proposals dealt with the two Targeted Programmes (TPs) “Energy II” and “Environment II”, topics of the 2013 call. 13 presentations were given by representatives of various European NMIs/DIs, dealing with both TPs. The large amount of discussed topics underlines the interdisciplinary features of metrology in chemistry and the deep involvement of metrology in chemistry community in these subjects.

7. Meetings

TC-MC annual meeting:

5th to 8th February 2013 (sub-Committees and TC-MC plenary meeting) in Braunschweig, Germany

Highlights:

Reports on activities of:

- CCQM/CIPM, *Robert Kaarls, Secretary of CIPM, Past President of CCQM*
- Metrology in chemistry at BIPM, *Robert Wielgosz, Head of BIPM Chemistry Department*
- EURACHEM, *Bertil Magnusson, SP, EURACHEM Chair*
- EURAMET, *Wolfgang Schmid, Head of EURAMET Secretariat*
- EURAMET TC-MC Sub-Committees, *Francesca Durbiano, Paola Fisicaro, Gavin O'Connor, Hugo Ent*
- CCQM WGs, *Michal Máriássy, Gavin O'Connor, Robert Wielgosz, Mike Sargent, Wolfgang Unger, Helen Parkes*

A particular attention was given to issues related to designation of DIs and CMCs and to the need of assuring the dissemination role of DIs. For this purpose, a presentation on JCRB resolutions regarding Quality Systems was given by Wolfgang Schmid and the preparation of a position paper that, starting from TC-MC will be extended to the other EURAMET TCs, was agreed.

Workshop: “EMRP workshop in preparation of the 2013 call”:

“Metrology-focused European coordinated research - EMRP and EMPIR”, *Joern Stenger, PTB*

Environment II

“Isotope analysis for environmental and climatic studies”, *Olaf Rienitz, Detlef Schiel, PTB*

“Primary methods for emerging pollutants and their metabolites”, *Christian Piechotta, BAM*

“OCEAN II”, *Henning Wolf, PTB*

“Metrology to support new WFD requirements”, *Béatrice Lalere, Sophie Vaslin-Reimann, LNE*

“Accurate measurement infrastructure for airborne particles (chemical and physical characterization)”, *Sophie Vaslin-Reimann, LNE*

“Innovative measurements for environmental monitoring in support of EU regulation”, *Helen Parkes, LGC*

“Underpinning policy making and implementation in the field of environment and energy – JRC “food for thought””, *Marina Ricci, JRC*

Energy II

“Electromobility”, *Petra Spitzer, PTB*

“New measurement challenges for biofuels. Ideas from working together with biofuels producers and consumers”, *Bertil Magnusson, SP*

“The need for appropriate metrology on organic photovoltaic device stability and efficiency”, *Muhammet Erkan Köse, TÜBİTAK UME*

Topics on Environment and Energy:

“Emerging requirements for accurate measurements in the gas and environmental sectors”, *Richard Brown, NPL*

“INRIM ideas for EMRP call 2013”, *Francesca Durbiano, INRIM*

“Possible ideas for PRTs by the Gas Subcommittee”, *Hugo Ent, VSL*

8. Issues

- CMCs review process between RMOs: late publication of CMC entries in the KCDB
- Re-review process of existing CMCs sometimes exceeding new CMCs
- Need to organise new comparisons to support CMCs based on old KCs
- Availability of final reports of comparisons to underpin CMC claims
- Implementation of the Core Competence approach to the inorganic analysis field
- Differences between calibration and testing: activities of NMIs and DIs to realise traceability to SI and disseminate the units
- Atomic weights of elements: new IUPAC approach and consequences on metrology in chemistry

9. Strategic planning and 10. Outlook for 2013/2014

- Participation in future EMRP TPs
- Organisation of EURAMET comparisons
- Discussion about CMCs and intra-regional review of Cycle XV claims
- Organisation of 2014 meeting in Teddington, UK