

REPORT

of Chairperson of TC 4 “Information and Training”

1 General characteristic of cooperation

In 2019–2020 the work within TC was conducted on the base of TC 4 Work Program for 2018–2020. There are three subcommittees in TC:

- SC 4.1 “Support in Developing the Basic Metrological Infrastructure of COOMET Member Countries” (*till April 2019*) / “Capacity Building in Training and Knowledge Transfer” (*from April 2019*);
- SC 4.2 “COOMET Informational Resources”;
- SC 4.3 “Raising Proficiency Level and Work with Young Metrologists”;

2 Results of works:

10 Workshops and 1 Competition were organised and held jointly with other TCs:

- PTB / COOMET Workshop “Implementing the updated requirements of the new version ISO/IEC 17025 in the Quality Management System of NMIs/DIs”, 5–7 February 2019, Braunschweig, Germany, jointly with TC 3.1 “Quality Forum Technical Committee”;
- Workshop for COOMET auditors and technical experts, 27–28 March 2019, Chisinau, Moldova, jointly with TC 3.1 “Quality Forum Technical Committee”;
- COOMET–BIPM Workshop within the BIPM CB&KT Programme “CIPM MRA review outcomes: comparisons and CMCs”, 2 April 2019, Dresden, Germany;
- Workshop on the implementation of a new version of ISO 17034:2016, 14 May 2019, Moscow, Russia, jointly with TC 3.1 “Quality Forum Technical Committee”;
- Workshop “Small volumes “piston pipettes” and “multi dispensers”, 23–25 July 2019, Wolfen, Germany, jointly with TC 1.6 “Mass and Related Quantities”;
- Seminar on the current issues of metrology, problems, state and development of measurements in the field of acoustics, ultrasound and vibration in countries/regional centers, represented in COOMET, 29 August 2019, Mendeleev, Russia, jointly with TC 1.2 “Acoustics, Ultrasound, Vibration”;
- Seminar on current issues in the field of humidity measurements, 29 August 2019, Irkutsk, Russia, jointly with TC 1.10 “Thermometry and Thermal Physics”;
- Workshop “CIPM MRA review outcomes: comparisons and CMCs”, 10 September 2019, Bratislava, Slovakia, jointly with TC 1.7 “Photometry and Radiometry”;
- Seminar “Determination of reverification intervals in legal metrology”, 11 September 2019, Kyiv, Ukraine, jointly with TC 2 “Legal Metrology”;
- Seminar “Drawing up CMC entries, passing intra- and interregional review to publish new and modify existing CMC entries”, 22–24 October 2019, Chisinau, Moldova, jointly with TC 1.3 “Electricity and Magnetism”;
- VIII International Competition “The Best Young Metrologist of COOMET”, 5–6 June 2019, Kazan, Russia.

3 Survey of implemented projects and their results

The following projects were completed:

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| 518/UZ-a/11 | Training of specialists of measuring, calibration and testing laboratories |
| 553/UZ-a/12 | The development of competencies and qualifications within COOMET for specialists and metrologists of measurement, calibration and testing laboratories for training on the basis of the modular approach |
| 656/UA-a/15 | Training on the basis of modular approach for specialists-metrologists of medical clinical laboratories |
| 739/CN/17 | The organisation and holding of a training activity in 2018 in field of food safety measurement |
| 774/UA/19 | The organisation and holding the Workshop within the BIPM Capacity Building & Knowledge Transfer Programme (CB&KT) for the Chairpersons of TC 1.1 – TC 1.12, TC 3.1 due to the expected revision of the CIPM MRA |

The work was conducted on the following registered projects:

543/RU-a/11 Development and administration a database of RM of COOMET

Ongoing joint project of TC 1.12 "Reference Materials" and TC 4 "Information and training". The aims of the project are to develop a structure of the document, acquisition and examination of data of reference materials of COOMET, their publication on the website as a database, administration the database of reference materials.

731/BY/17 Review of national education & training systems for the NMIs and metrologists of the COOMET member countries

Through the completion of this COOMET Project, the system of basic education, the system for training, advanced training and retraining as well as the system for training of top-qualification scientific personnel of the NMIs and of metrology professionals of the COOMET member countries shall be reviewed and analyzed.

4 Results of the TC meeting

16th meeting of TC4 "Information and Training" was held on 2-3 October 2019 in Baku, Azerbaijan. The meeting was attended by Chairpersons of TC 4 subcommittees, TC 4 members and their representatives from 8 COOMET member countries (Azerbaijan, Belarus, Kyrgyzstan, Moldova, Russia, Uzbekistan and Ukraine), as well as Ch. Kuanbayev, a collaborator of International Liaison and Communication Department of International Bureau of Weights and Measures (BIPM), and T. Tasic, Capacity Building Officer of the Secretariat of the European Association of National Metrology Institutes (EURAMET).

16 issues of the agenda have been considered at the meeting, including:

- main results of the activity of COOMET TC 4 in 2018-2019;
- realization of the Program of works of COOMET TC 4 for 2018-2020;
- implementation of COOMET projects within TC 4;
- activity of subcommittees of TC 4;
- activity within BIPM Program on capacity building and knowledge transfer (CB&KT)
- cooperation with EURAMET;
- results of VIII International competition "Best Young Metrologist of COOMET - 2019";
- draft of the Program of works of COOMET 2020-2023 in the field of information and training.

During the meeting detailed information was provided on the implementation of decisions of the 15th meeting of TC 4, on the results of the activities of TC 4 in 2018-2019 and activities carried out within TC 4, as well as on decisions taken during the 23rd meeting of the COOMET Presidential Council and the 29th meeting of the COOMET Committee.

Members of TC 4 approved the activities of the technical committee in the reporting period and proposed updating the Program of works in connection with the completion of a number of projects and the opening of new ones.

The coordinators of projects within TC 4 presented the results of works on projects in the reporting period. The participants of the meeting proposed new projects for training events.

The fields of activity of SC 4.1 and SC 4.3 were specified.

Ch. Kuanbayev, a collaborator of International Liaison and Communication Department of BIPM, presented information about the BIPM program on capacity building and knowledge transfer (CB&KT) and the participation of COOMET representatives in this program.

T. Tasic, EURAMET Secretariat Capacity Building Officer, provided information on EURAMET's capacity building and knowledge transfer activities.

5 Results of the VIII International Competition "The Best Young Metrologist of COOMET"

The VIII International Competition "The Best Young Metrologist of COOMET 2019" was held on 5–6 June 2019 in Kazan, Russia.

In total, over twenty young specialists from the NMIs of COOMET member-countries took part in the Competition.

The selection of the best papers was carried out on the basis of a criteria:

- paper's innovation (importance, scientific novelty, originality);
- potential for international cooperation;

– quality of presentation (structural and scientific validity, quality of design and presentation).

Tonkonog Mikhail, VNIIR, Russia, became the winner of competition with awarding the 1st degree diploma.

The winner of the competition with awarding a diploma of the 2nd degree was Sosnovsky Artem, BelGIM, Belarus, and the winner with awarding a diploma of the 3rd degree was Guskova Ekaterina, VNIIMS, Russia.

Two special prizes and diplomas in the nomination “For the best report in English” were awarded to Groppa Tatyana, VNIIOFI, Russia, and Ivanov Alexey, VNIIOFI, Russia.

Within the Competition, the scientific-practical conference on contemporary problems and prospects for the development of metrology was held, during which number of representatives of the metrological organizations of Germany, France, Russia reported.

6 Results of the PTB / COOMET Workshop “Implementing the updated requirements of the new version ISO/IEC 17025 in the Quality Management System of NMIs/DIs”

The Workshop “Implementing the updated requirements of the new version ISO/IEC 17025 in the Quality Management System of NMIs/Dis” was held on 05–07 February 2019 in PTB Braunschweig, Germany.

The workshop was attended by 28 metrologists from 10 COOMET member-countries (Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Germany, Kyrgyzstan, Moldova, Russia, Ukraine and Uzbekistan), as well as lecturers from PTB – Martin Czaske, Andreas Odin, Kai Stoll-Malke, Magda Kemper, Beate Kulesa.

The agenda of the workshop included the following topics:

- Historical survey and main changes of revision ISO/IEC 17025;
- Detailed review of ISO/IEC 17025:2017;
- Management system requirements;
- Process approach;
- Decision rules;
- Information technologies;
- Risk-based thinking;
- Metrological traceability;
- Competence of Personnel.

7 Results of the COOMET–BIPM Workshop within the BIPM CB&KT Programme “CIPM MRA review outcomes: comparisons and CMCs”

2 April 2019, Dresden, Germany, the one-day COOMET–BIPM workshop was held for the Chairpersons of TC 1.1 – TC 1.12, TC 3.1.

The workshop was attended by 38 specialists-metrologists – Heads of COOMET Technical Committees and invited guests from 14 COOMET member-countries (Armenia, Belarus, Bosnia and Herzegovina, China, Cuba, Germany, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine and Uzbekistan), as well as representatives of international and regional metrology organizations – Andy Henson, Head of International Liaison and Communication Department of BIPM; Chingis Kuanbayev, specialist of International Liaison and Communication Department of BIPM; Ian Dunmill, Assistant Director of the BIPM; Wolfgang Schmid, EURAMET Member Service Manager.

The goal of the workshop – development of recommendations for coordinating the actions of the TCs Chairpersons when introducing new approaches aimed at improving the efficiency and effectiveness of the CIPM MRA processes.

The agenda of the workshop included 4 sections with the following topics:

1. Representative CMCs (broad scope)
2. Reducing workload
3. Interpretation of comparisons
4. Sharing workload

8 Results of the Workshop on the implementation of a new version of ISO 17034:2016

The Workshop was held on 14 May 2019 in Moscow, Russia.

The Program of the Workshop included the following topics:

1. Differences in the version of standard ISO 17034:2016 and ISO Guide-034.
2. Policy and transition plan of COOMET to the new version of ISO 17034:2016.

3. Tasks of NMI during the transition to the new version of ISO 17034:2016 (planning of works on preparation of presentations and peer reviews of COOMET Quality Forum).
4. Updating of the NMIs QMS documents in connection with the transition to the new version of ISO 17034:2016 (basic requirements).
5. Performing by COOMET Quality Forum of peer reviews of QMS of COOMET NMIs for 2020–2022.

9 Results of the Workshop “Small volumes “piston pipettes” and “multi dispensers”

Workshop was held on 23–25 July 2019 in Wolfen, Germany.

The workshop was attended by 11 specialists-metrologists in the field of mass and related quantities from 8 COOMET member-countries (Armenia, Belarus, Bosnia and Herzegovina, Georgia, Kyrgyzstan, Russia, Ukraine and Uzbekistan), as well as lectures from Germany and Portugal.

The agenda of the workshop included the following topics:

- Introduction into the theory of calibration of piston pipettes and hand dispensers according to DKD-R 8-1 and DKD-R 8-2;
- Introduction into the theory of calibration of volumetric glassware according to ISO 4787;
- Preparation of a supplementary key comparison in the area of volume calibration;
- Practical training in the volume calibration laboratory.

10 Results of the Seminar on the current issues of metrology, problems, state and development of measurements in the field of acoustics, ultrasound and vibration in countries/regional centers, represented in COOMET

The seminar was held on 29 August 2019 at VNIIFTRI, Mendeleev, Russia, within the 14th meeting of COOMET TC 1.2 “Acoustics, Ultrasound, Vibration”.

TC 1.2 members and representatives of NMIs of the following countries took part in the seminar: Belarus, China, Lithuania, Russia and Uzbekistan.

The reports on the current trends of metrological control in the AUV field were presented. The most interesting of them included reports on new methods for low frequency vibration calibration; feasibility discussion on airborne ultrasound microphone calibration using photon correlation in free-field conditions; new application of medical ultrasound (contact lithotripters, weak-focusing emitters) and problems of metrological support.

11 Results of the Seminar on current issues in the field of humidity measurements

The Seminar was held on 29 August 2019 in Irkutsk, Russia, within the 16th meeting of TC 1.10 “Thermometry and Thermal Physics”.

Specialists of national metrological institutes of Belarus, Germany, Kazakhstan, Kyrgyzstan, Moldova, Russia, Slovakia, Ukraine and Uzbekistan took part in Seminar.

During the Seminar the issues of metrological support for measuring relative humidity in the serial production of thermohygrometers were considered. Reports on modern standard equipment in the field of humidity, on the metrological support of measuring instruments for the temperature of condensation of hydrocarbons are presented.

12 Results of the Workshop “CIPM MRA review outcomes: comparisons and CMCs”

Workshop was held on 10 September 2019 in Bratislava, Slovakia, within meeting of TC 1.7 “Photometry and Radiometry”.

The workshop was attended by 15 representatives of NMI from 8 COOMET member-countries – Belarus, Germany, Kazakhstan, Moldova, Russia, Slovakia, Ukraine and Uzbekistan, as well as special guests – CCPR President Dr. Maria-Luisa Rastello and Chairperson of CCPR Working Group on CMCs Dr Marek Smid.

The Agenda of the Workshop included the following issues:

- Metrology and CIPM MRA;
- Requirements of CIPM MRA Regulations;
- Introduction to KCDB;
- Comparisons and CMCs in CIPM MRA;
- Reduced RMO workload during the CMC review process.

13 Results of the Seminar “Determination of reverification intervals in legal metrology”

The Seminar was held on 11 September 2019 in Kyiv, Ukraine, within meeting of TC 2 “Legal Metrology”.

More than 40 specialists in the field of legal metrology of national metrological institutes from 11 COOMET member-countries (Armenia, Belarus, Bosnia and Herzegovina, Cuba, Georgia, Germany, Moldova, Slovakia, Tajikistan, Ukraine and Uzbekistan) participated in the Seminar.

The participants presented the information about national practice of determination of reverification intervals for 20 most common measuring instruments. Requirements of Document ILAC-G24/OIML D 10 “Guidelines for the determination of recalibration intervals of measuring equipment used in testing laboratories” have been also considered.

14 Results of the Seminar “Drawing up CMC entries, passing intra- and interregional review to publish new and modify existing CMC entries”

The seminar was held on 22–24 October 2019 in Chisinau, Moldova.

The CIPM documents setting requirements for preparation, review of new CMC entries and modification of CMC entries, published in the BIPM database were introduced as well as related issues of concern were discussed.

The following reports were presented at the seminar:

- Procedure of interregional review of CMC today and in the future. Comparisons on CIPM MRA;
- Organization and carry out of intraregional review of CMC entries;
- The practice of forming CMC entries on an example.

15 Work on information support of the CIPM MRA

Information about the CIPM MRA realization in COOMET member-countries is posted on the pages of www.coomet.net and www.coomet.org. Posting the information at online resources is conducted by COOMET Secretariat and by on-line editors of countries and COOMET Technical Committees.

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Chairperson of TC 4