



Asia Pacific Metrology Programme

APMP TCM Report

Sheng-Jui Chen

APMP TCM Chair

CMS/ITRI, Chinese Taipei

CCM-WGS Online Meeting 21 April 2021

TCM online meeting 2020

- Date and time: 9-11 November 2020, 13:00-17:00 (UTC+8)
- Attended by 97 people, representing 23 economies and 25 NMIs/Organizations
- *Planck constant defined kilogram*
 - First kg realization comparison CCM.M-K8.2019 (NMIJ, KIRSS and NIM)
 - XRCD kg realization progress (CMS/ITRI)
- *Pressure and Vacuum*
 - Optical pressure standard development (NIM)
 - Alternative methodology for establishing a vacuum scale using a static expansion system (NMIA)
- CMC submission and review process in KCDB 2.0 introduced
- Draft guidelines for TCI and FGI projects introduced
- TCM-DEC Champion: MaryNess Salazar from NML-ITDI, Philippines
- New TCM Member: UzNIM, Uzbekistan, TCM delegate Mr. Marat Yunusov



Introduction to CMC submission and review process in KCDB 2.0

- CMC submission process in KCDB 2.0
 - Create user account with the Role of Writer “ROLE_WRITER”
 - Create the CMC
 - Use the CMC template spreadsheet, then import the edited file (Recommended by BIPM KCDB office)
 - Use the form in the website
- CMC Review Process
 - Intra-RMO review
 - TCQS review can not be conducted from KCDB 2.0
 - Applicant NMI needs to send all the documents to TCQS Chair
 - Reviewer’s identity is public to CMC writers and other reviewers
 - Inter-RMO review (JCRB review)



Technical review team established for CMCs review on KCDB 2.0

- **Density:** Dr. Naoki Kuramoto (NMIJ)
- **Viscosity:** Dr. Yoshitaka Fujita (NMIJ)
- **Mass:** Ms. Kitty Fen (NMIA), Dr. Wang Jain (NIM), Dr. Yu-Hsin Wu (CMS/ITRI), Dr. Naoki Kuramoto (NMIJ), Dr. Kwang-Cheol Lee (KRISS), Mr. Lee Shih Mean (NMC-A*STAR)
- **Pressure and Vacuum:** Dr. Yang Yuanchao (NIM), Dr. Sheng-Jui Chen (CMS/ITRI), Dr. Tokihiko Kobata (NMIJ), Dr. Kenta Arai (NMIJ), Dr. Hiroaki Kajikawa (NMIJ), Dr. In-Mook Choi (KRISS), Dr. Han Wook Song (KRISS), Dr. Mark Clarkson (MSL)
- **Hardness:** Dr. Koichiro Hattori (NMIJ), Dr. Nae Hyung Tak (KRISS), Dr. Montree Pakkratoke (NIMT)
- **Force and Torque:** Ms. Zhang Zhimin (NIM), Dr. Sheng-Jui Chen (CMS/ITRI), Dr. Koji Ogushi (NMIJ), Dr. Atsuhiko Nishino (NMIJ), Dr. Toshiyuki Hayashi (NMIJ), Dr. Yon-Kyu Park (KRISS), Dr. Min-Seok Kim (KRISS)
- **Gravity:** Dr. In-Mook Choi (KRISS), Mr. Shigeki Mizushima (NMIJ)



Upcoming TCM related activities

- 1 December, 2020: CCM WG PV web meeting
- 17-21 May 2021: 18th meeting of CCM and related meetings
- 30 August – 3 September 2021, IMEKO 2021, web based conference with on demand video
- 11 -13 October 2022, IMEKO TC3, TC5, TC16 and TC22 International Conference



DEC Champions

- act as a liaison/coordination point and spokesperson for developing NMIs in each TC
- TCM-DEC Champion:
 - **Ms. MaryNess Salazar** from NML-ITDI was nominated, seconded by TCM members, and finally approved by TCM to be the TCM's DEC Champion

About APMP DEC:

The APMP Developing Economies' Committee (DEC) was established in 2000 to help address the needs of APMP's developing member institutes and to oversee and coordinate associated work programs.



Comparisons: Update and Proposal

- Status of APMP.M.M-K5
 - Final report ready in June 2019
 - Some participants have not [replied](#) their consistency check with the published CMCs
 - Contact persons confirmed for each participants except for *NISIT, Papua New Guinea*
- Actions to some current KCs made after discussion, to speed up the KCs' progress
- Hybrid comparison
 - **APMP.M-H1.2020**: HC on pneumatic and hydraulic pressure between MUSSD and NMIJ
 - One extra alphabet “M”, “F” or “P” will be added to the HC’s identifier to identify the sub-field in TCM



Comparisons older than 5 years

KC identifier	Indicated year	Status (March 2020)	Pilot	Current status	Advice - e.g. continue, abandon	Reason
Key comparisons						
APMP.M.D-K4	2007-2008	Report in Progress, Draft A	KRISS	Draft B report in progress	continue	Draft A circulated, waiting for the last participant's result correction
APMP.M.F-K3.a	2011-2014	Measurements in progress	NIM	Measurement completed, report under preparation	continue	Custom clearance for the transfer standard took a long time for some participants; some participants encountered some malfunction in their machines during the comparison. Now, all measurements have been completed for K3. Final report is being drafted.
APMP.M.F-K3.b	2011-2014	Measurements in progress	NIM	Measurement completed, report under preparation	continue	Custom clearance for the transfer standard took a long time for some participants; some participants encountered some malfunction in their machines during the comparison. Now, all measurements have been completed for K3. Final report is being drafted.
APMP.M.P-K15	2013-2014	Measurements completed	NMIJ/AIST	Draft A (Waiting for participants' response)	continue	Some participants have not responded to the draft A



Comparisons older than 5 years

KC identifier	Indicated year	Status (March 2020)	Pilot	Current status	Advice - e.g. continue, abandon	Reason
Key comparisons						
APMP.M.P-K4	2015-2016	Measurement completed	KRISS	Draft A report in preparation	continue	Waiting for the last participant's result correction
APMP.M.P-K1.c.2	2012-	Submitted to the KCDB Office	KRISS	unknown	unknown	To be investigated
APMP.M.P-K7.2	2015-2016	Report in progress, draft B	NIMT	Final report reviewed by TCM, under revision	continue	Final report will be revised soon, then submitted to CCM
APMP.M.T-K1	2015-2016	Planned	KRISS	unknown	unknown	To be investigated



Comparisons older than 5 years

KC identifier	Indicated year	Status (March 2020)	Pilot	Current status	Advice - e.g. continue, abandon	Reason
Supplementary Comparisons						
APMP.M.G-S1	2012	Report in progress, Draft A	NIM	Final report under review	continue	Submission of final report to TCM delayed
APMP.M.H-S4	2011	Report in progress, Draft A	KRISS	Measurement suspended due to internal issues	abandon	It would take a very long time to resume the comparison.
APMP.M.P-S1	2003-2005	Measurements completed	CMS/ITRI	Measurement completed	abandon	no APMP KC in the range (100 kPa to 400 kPa) available for linking the results
APMP.M.P-S7	2015	Report in progress, Draft B	NIMT	Final report under review	continue	The SC report was left unattended for quite some time until the pilot lab inquired the review progress.



TCM Chair Election

- In accordance with the APMP constitution listed in the APMP MOU (<http://www.apmpweb.org/documents/file/mou.pdf>), it is also time to elect a new TCM Chairman 1 year ahead before the end of my term in the end of 2021. An extract from the APMP MOU on TC Chair (Section 6.3) is quoted below for your information:
- *“6.3 The Chair of each APMP Technical Committee will be from a Full Member organisation. **Candidates for Chairs of Technical Committees are required to provide a letter of endorsement from his/her laboratory’s director.** Elections will be conducted **preferably one year before the end of the term of the incumbent Chair.** Election will be based on votes cast by TC members of APMP Full Members. The newly elected TC Chair (hereinafter referred to as “Chair-elect”) will be considered for approval by the General Assembly and if approved will be welcomed by the next General Assembly when starting his/her term as TC Chair. The TC Chair-elect will support the incumbent TC Chair to ensure continuity of TC operation. The Chair will be elected for a three-year term of office, with the possibility of serving an additional year after approval from the General Assembly, with the maximum term being four years.”*
- As such, for full member organization representatives, if your institute is interested to nominate a candidate for the election of the new TCM Chair, please let me know in a **separate** e-mail. The election will be conducted online using some online anonymous vote service, e.g. ADoodle, SurveyMonkey, etc. The online voting will be held on 11 Nov 2020.



TCM Chairs

Previous TCM Chair	NMI	Year
1. Dr Sutton	MSL	2000 - 2004
2. Dr Bignell	NMIA	2005 – 2008
3. Dr Bandyopadhyay	NPLI	2009 – 2011
4. Dr Woo	KRISS	2012 - 2013
5. Dr Kobata	NMIJ	2013 - 2015
6. Mr. Lee Shih Mean	A*STAR	2016 - 2018
7. Sheng-Jui Chen	CMS/ITRI	2019 - 2021
8. Dr. S.S.K. Titus	NPLI	2022 - 2024



TCM Chair-Elect (after APMP GA 2021)



Dr. S.S.K. Titus (CSIR-NPL, India)





First trial run of the online TCM dinner



Thank you for your attention!

