



Minutes

Day 1: Thursday 17 November 2016, 09:00 - 17:35 – Open Session

Present: Dr Peter Fisk (Chair, NMIA), Mr Yusuf Khan (Secretariat, NMIA), Dr Seungnam Park (EC Member, KRIS), Dr Yu-Ping Lan (EC Member, CMS-ITRI), Dr Toshiyuki Takatsuji (EC Member, NMIJ), Dr Thomas Liew (Treasurer, NMC-A*STAR), Dr Osman Zakaria (EC Member, NMIM), Mr Zhang Yue (EC Member, NIM), Professor Prayoon Shiowattana (DEC Chair, NIMT), Mr Takehiro Morioka (APMP Secretary-Designate), Dr Peter Manson (Lead TC Chair).

Representatives From: NMIA, NIM, CMS/ITRI, INER, Chunghwa Telecom Co Ltd, SCL, GL, KIM-LIPI, RCCChem-LIPI, PTKMR-BATAN, NMIJ, NICT, CERI, JEMIC, KRIS, NMIM, Nuclear Malaysia, KIMIA, MSL, NPSL, NISIT, ITDI, VNIIM, NMC-A*STAR, HSA, MUSSD, NIMT, TISTR, OAP, VMI, KazInMetr, NMISA, TCAUV, TCEM, TCFF, TCL, TCM, TCMM, TCPR, TCQS, TCQM, TCRI, TCT, TCTF, , EEFG, CCFG, MMFG, FSFG, CWFG, PTB-MEDEA Project, CIPM, AFRIMETS, GULFMET, SIM, APLAC, APEC SCSC.

Observer: DSM (Laos)

- 1. Welcome, Opening and Introductions** (*Dr Peter Fisk, APMP Chair*)
Dr Fisk opened the meeting at 9:00am and welcomed all delegates.
- 2. Approval of the Agenda** (*Dr Fisk*)
Agenda item 10 (*Reports from APMP stakeholder organisations*) was amended to include a report from SIM.
- 3. Adoption of Minutes of the 31st GA in Beijing, China** (*Dr Fisk*)
No amendments were made to the [Minutes of the 31st GA in Beijing, China](#) and the Minutes were adopted.
- 4. Chair's Report on APMP Developments Since the 2015 GA** (*Dr Fisk*)
Dr Fisk delivered his report in conjunction with [presentation slides](#).

Dr Fisk reviewed highlights from the BIPM Directors' Meeting in October 2016 (see also the BIPM/CIPM update from Dr Barry Inglis later in this report).

- With regard to the BIPM's Capacity Building and Knowledge Transfer (CBKT) program, he noted that the BIPM has offered to provide course material to RMOs, which can be amended to suit regional needs. Training sessions can be hosted at the BIPM, or APMP can invite trainers from the BIPM and/or other regions to conduct courses in our region.
- With regard to the CIPM MRA Review, Dr Fisk noted the importance of ensuring that communication lines between the JCRB, CIPM, RMOs and CCs are clear.
 - Development of KCDB 2.0 is well underway. The system will provide a unique link to a CMC and a corresponding NMI service can be included which NMIs will be responsible for maintaining. Testing will commence in February 2018 with the launch expected to be in June 2018.



Dr Fisk also highlighted the importance to APMP of engaging with regional forums, noting the comments from Dr Victoria Coleman to the EC following her attendance at APEC meetings in August 2016.

Dr Fisk also noted that PTB had advised that the German Government may renew funding for the Asia Pacific “MEDEA” project (Metrology: Enabling Developing Economies in Asia) for a further three to four years. Dr Fisk thanked Dr Abdul-Rashid Bin Zainal Abidin (APMP MEDEA Co-ordinator, subsequently referred to in these minutes as Dr Rashid), the APMP MEDEA team, and PTB for their hard work and support, noting that MEDEA has made a big difference to our region.

Dr Fisk concluded his report by thanking Dr Xuan, Mr Hung, Ms Ly, Ms Tu, and the VMI organising committee for their excellent organization of the APMP GA and Related Activities.

5. Report of APMP Developing Economies’ Committee (DEC) (Professor Prayoon Shiwattana, DEC Chair)

5.1. Report on DEC Activities and Financial Status

Professor Shiwattana delivered his presentation in conjunction with [presentation slides](#).

The DEC Report covered four issues: the review of the DEC Strategic Plan, the APMP Iizuka Young Metrologist Prize For Developing Economies, MEDEA 2.0 and strategic planning for the APMP Mid-Year Meetings in 2017.

The time frame for the DEC strategic plan has been extended to cover the period 2017-2020 and a vision statement has also been created.

Professor Shiwattana advised that Dr Sivinee Sawatdiaree (NIMT) will lead the DEC task force to develop the proposed *metrological traceability sharing scheme*, a database of measurement standards and capabilities and other resources available within the region.

A DEC Coordination Committee will also be established to administer the DEC Budget, evaluate and monitor DEC funded activities and maintain and update the guidelines for applying for DEC funding. Professor Shiwattana advised that the World Bank’s classification scale would be used to rank APMP economies for funding eligibility. Professor Shiwattana will discuss a request to rollover the 2016 DEC budget into 2017 with the EC.

The APMP Iizuka Young Metrologist Prize For Developing Economies has been re-named by the DEC to the DEN Iizuka Award For Early Career Metrologists. It is proposed that the prize will be awarded to one candidate per year with a prize of US\$1000.

With regard to MEDEA 2.0, developing NMIs will be asked for suggestions regarding activities in the first half of 2017. An evaluation and planning workshop for MEDEA 2.0 will be held in conjunction with the 2017 APMP Mid-Year Meetings in Malaysia.

5.2. Review of the MEDEA Project (Dr Abdul-Rashid Bin Zainal Abidin, APMP MEDEA Coordinator)

Dr Rashid delivered his presentation in conjunction with [presentation slides](#).

Dr Kristin Kiesow, who has been the PTB Project Coordinator for MEDEA, has left PTB to join the



Steinbeis Foundation in Stuttgart. Ms Andrea Ulrich will be the interim PTB Project Coordinator for MEDEA until a replacement for Dr Kiesow is appointed.

Dr Rashid provided an overview of MEDEA activities in 2016, including the number of admitted and rejected participants for each MEDEA Work Package (with reasons for participant rejection provided). He thanked the trainers and hosts from APMP economies noting that, while trainers can be sourced from outside the region, it is better to make use of our own experts wherever possible. Dr Rashid also encouraged all NMI Directors to complete the MEDEA Scientific Metrology Survey.

Dr Rashid then presented an overview of MEDEA activities for 2017, with a workshop planned in Mongolia for NMIs yet to publish their first CMCs.

There is a good possibility that MEDEA will be extended by the German Government, although this could be with a smaller budget so opportunities will need to be prioritised. Dr Fisk encouraged members to communicate any suggestions regarding MEDEA 2.0 to the MEDEA team or the APMP Chair.

6. Signing Ceremony for EMI (UAE)

Dr Fisk, Mr Mohamed Ahmed Al Mulla, Dr Georgios Tsorbatzoglou, and Mr Khan participated in the signing ceremony admitting EMI as an Associate Member of APMP. Dr Tsorbatzoglou signed the APMP MoU on behalf of EMI. He then gave a short address to the GA affirming that EMI will work hard to fulfil its obligations as an Associate Member of APMP.

7. Treasurer's Report (*Dr Thomas Liew, APMP Treasurer*)

Dr Liew delivered the Treasurer's report in conjunction with [presentation slides](#).

Dr Liew presented a summary of expenditure for FY2015 noting that, as at 31 December 2015, APMP had US\$453,342 in its bank account. The FY2016 accounts were presented for the period 3 January 2016 to 3 October 2016, including an estimated budget utilisation table for FY2016. Membership fees for 2017 have been reviewed by the EC as required by the APMP MoU.

ACTION GA32-01: The Secretariat will write to Kazakhstan (KazInMetr), Egypt (NIS), the Philippines (ITDI), and Indonesia (KIM-LIPI and DIs) to advise them of changes to their membership fees.

Dr Liew presented the proposed budget for FY2017. Support for GA meetings will increase from US\$35k to \$40k and support for Mid-Year meetings will increase from US\$3k to US\$6k.

Dr Samuel queried the amount allocated to Liaison Meetings and noted that, if we are to increase interaction with APEC for example, US\$6k may be insufficient. Dr Liew advised that funds can be moved between line items if necessary and Dr Fisk added that a resolution made at a previous GA gave the Treasurer the authority to transfer funds between line items provided the total budget remains the same.

Dr Miki advised that Japan may not draw on the Secretariat Support budget, but is happy to note that this is available. Dr Fisk noted that the EC has decided to keep the line item in the budget and to provide the Secretariat economy with the option if they wish to use it. He then concluded the discussion noting that the proposed 2017 APMP Budget will be formally presented to the closed session of the GA for approval.



8. Report of APMP Awards Committee (AAC) (Mr Zhang Yue, Chair, AAC)

Mr Zhang delivered the AAC report in conjunction with [presentation slides](#).

Dr Miki completed his term as a member of the AAC at GA 2015 and Ms Kimura from NML (Philippines) has been appointed to the Committee. The APMP Iizuka Young Metrologist Prize For Developing Economies is to be awarded from 2017.

9. CIPM / BIPM Issues

9.1. Report from the International Bureau of Weights & Measures (BIPM)/International Committee for Weights & Measures (CIPM) (Dr Barry Inglis, President, CIPM)

Dr Inglis delivered his report in conjunction with [presentation slides](#).

CIPM MRA Review: Dr Inglis briefly summarised the stages of the Review. The Working Group on the Implementation and Operation of the CIPM MRA was established as a result of the Workshop held in October 2015. Sub-groups were then formed to consider key issues off-line and their draft recommendations were presented at the meeting of the Working Group in March 2016. A report was sent to NMI Directors in June 2016 with 28 recommendations and sub-recommendations. This was presented to the CIPM last month. As a result, the CIPM has now established a working group to oversee the implementation of these recommendations and encourages as much input as possible to progress this matter. Dr Inglis encouraged feedback from APMP, noting that it has the second highest number of entries in the KCDB.

Liaison activities: The BIPM works actively with international bodies and inter-governmental organisations, with regular meetings with ISO, ILAC and OIML. In September a joint symposium was held with WADA to discuss the latest research developments in organic and biological analysis for sports drug testing.

BIPM CBKT program: This initiative arose out of a BIPM/CIPM proposal to the 2014 CGPM. The program has developed on a voluntary basis. The current training course, sponsored by NIST, is to assist the 18 new and potential TC and WG Chairs to participate more effectively in the processes of the CIPM MRA. Another NIST-sponsored course is scheduled for late 2017 and is also aimed at those newly engaged in the CIPM MRA. In addition, a CBKT project is underway to help NMIs strengthen mycotoxin metrology capabilities, supported by the BIPM and Gulf States with NIM providing reference materials for this project.

Dr Inglis advised that the BIPM and the Italian Physical Society ran its (4-yearly) joint metrology school in June 2016 in Varenna, Italy. He also noted that the World Metrology Day poster for 2016 was designed by VNIIM (Russia); the 2017 poster is being designed by INM (Colombia).

Redefinition of the SI: Dr Inglis advised that, while approval of the re-definitions is expected to take place at the November 2018 CGPM, they will only come into effect from World Metrology Day (20 May) 2019. Dr Manson asked if communications experts have been engaged by the BIPM to prepare information brochures. Dr Inglis advised that there will be some communications available in early 2017; he noted the importance of using the right language in discussing the redefinition of the SI, in particular ensuring that the media do not get the wrong slant.

Discussion on CBKT program: Dr Early asked how many people from an RMO like APMP would be able to attend the CBKT programs. Dr Inglis replied that this is very much up to the regions; the best



way to ensure APMP gets reasonable representation is to fund participation in the program. Dr Kang suggested that the BIPM introduce online training so participants won't have to travel to Paris. Dr Inglis recommended that APMP propose and possibly fund this as the BIPM doesn't have the resources. Dr Fisk noted that the EC is discussing bringing trainers to the Asia-Pacific region with participants being funded by the DEC. He agreed that Dr Kang's suggestion should be considered.

9.2. Outcomes From the 7th APMP "NMI Directors' Workshop" (Dr Peter Manson, APMP Lead TC Chair)

Dr Manson reported on the outcomes from the 7th APMP "NMI Directors' Workshop" in conjunction with presentation slides.

The Workshop topic was *Revisions to the Operation of the CIPM MRA: What This Means for APMP*.

- In his introduction to the workshop, Dr Fisk emphasized the importance of APMP NMI Directors engaging with the Review and Recommendations, to ensure that their concerns are effectively voiced, their feedback and suggestions are incorporated into the implementation phase, and potential opportunities offered by the recommendations are leveraged.
- In his presentation, Dr Inglis focused on actions identified for RMOs and NMIs. He also encouraged feedback on whether the JCRB is working as it should.
- Professor Shiowattana then presented on issues and perspectives from the Developing Economies, noting that DENs need to convince their governments of the importance of participating in the MRA.
- Dr Manson's presentation highlighted the importance of maintaining the quality of the KCBD while reducing the workload. He recommended that more advantage be taken of on-site peer reviews in reviewing capabilities.

The break-out group discussion topics were:

- Coverage of NMI services by CMCs and scope of third party accreditation
- Promoting a risk-based approach while building inter-regional confidence in CMC reviews
- Developing economies – issues and opportunities
- What can APMP do to increase the efficiencies of its CIPM MRA processes
- What issues and opportunities arise from APMP's Focus Group strategy/activities that the CIPM and CCs could help address, in particular to increase the impact of the CIPM MRA

Dr Fisk said that the Secretariat will prepare the Workshop report as soon as possible, with a copy to be forwarded through the JCRB to the BIPM.

10. Reports From APMP Stakeholder Organisations

10.1.1. Asia Pacific Laboratory Accreditation Cooperation (APLAC) – Dr Yoshinobu Uematsu

Dr Uematsu delivered his presentation in conjunction with [presentation slides](#).

There are now a total of 43 full members and 11 associate members. There have been no new signatories to the APLAC MRA. The 22nd APLAC GA was held from 16-17 June 2016 in Chinese Taipei. Highlights included the following:

- Endorsement of the creation of a new joint APLAC-PAC entity (regional cooperation body) within three years.
- Election of Mr W W Wong (HKAS, Hong Kong, China) as the new APLAC Chair; Ms Jennifer Evans (NATA, Australia) was elected into the new position of Vice Chair.



- The next APLAC-PAC Joint Annual Meetings will be held from 16-24 June 2017 in Bangkok, Thailand.

10.1.2. Report of APMP-APLAC Joint Proficiency Testing (PT) Working Group – Dr Angela Samuel
Dr Samuel presented this report on behalf of Dr Della Sin (Co-Convenor of the Working Group) in conjunction with [presentation slides](#).

The main message arising from the joint work programs undertaken to date is that proficiency testing is seen as a valuable tool for evaluating the performance of participating institutes/ laboratories and assisting participants identify problems and/or areas of improvement. The PT programs undertaken to date were reviewed, lessons learned highlighted and proposals for new programs summarised. These include identification of future PTs covering physical metrology.

10.2. Asia Pacific Legal Metrology Forum (APLMF) – Dr Toshiyuki Takatsuji

Dr Takatsuji highlighted the cooperation between APMP and APLMF, especially in raising awareness of metrology in the Asia-Pacific region. Dr Takatsuji commented on the APLMF work plan for 2017 and how APLMF is seeking to be a more effective metrology organisation in the region.

10.3. AFRIMETS (Intra-Africa Metrology System) – Dr Wynand Louw

In presenting the [AFRIMETS report](#), Dr Louw noted AFRIMETS appreciation of APMP participation in the AFRIMETS GA earlier in 2016. Across Africa there has been an improvement in both legal and scientific metrology from 2007 to 2016. Areas of current focus include capacity building for safe food and feed in developing economies and shortening the traceability chain to make a more direct route to the SI. Dr Louw noted that many French speaking African countries get their traceability through France; AFRIMETS is in talks with AFRAC (African version of APLAC) regarding this. The 2017 AFRIMETS GA is from 31 July to 4 August in South Africa.

10.5. GULFMET (Gulf Association for Metrology) – Mr Mohamed Al Mulla

Mr Al Mulla presented the [GULFMET report](#), noting that GULFMET full member economies are from GCC and GSO Countries. Associate Members include Egypt (NIS), South Korea (KRIS), and Hong Kong (SCL). Mr Salah Al-Rumaihi from Qatar has been elected Chair of GULFMET to Oct 2019. GULFMET currently has five technical committees (L (Dimension), T (Thermometry), EMFT (Electricity, Magnetism, Time and Frequency), M (Mass and Related Quantities), QS (Quality System)). The 2nd Gulf Metrology Forum will be held in Doha, Qatar from 4-6 December 2017. Dr Fisk congratulated GULFMET on the progress made in coordinating metrology in the Gulf region.

10.6. Asia Pacific Economic Cooperation (APEC) – Mr Linh H. Nguyen

Mr Linh's [presentation](#) focused on APEC's Sub-Committee on Standards and Conformance (SCSC), highlighting SCSC priorities and 2017 projects. He also noted that APEC forums would like to hear from APMP. Dr Samuel noted the value of having an APEC representative participate in the GA, and for APMP to hear about SCSC's work plan ahead of time so that we can incorporate this into our forward plans. Professor Hongmei Li suggested that the APEC Food Safety Cooperation Forum connect with food safety proficiency testing activities in the region to harmonise measurement standards and establish a joint framework. She also asked whether SCSC could provide ongoing support for relevant activities? Mr Linh said he will raise this issue in the SCSC.



10.7. MEDEA-APMP-APLMF Web Portal – Dr Angela Samuel

Dr Samuel delivered this [presentation](#) on behalf of APLMF President Mr Stephen O'Brien. She noted that the portal is not intended to replace either the APMP or APLMF websites but to provide links to both as well as OIML, BIPM and other authoritative sources. It is intended to provide information and resources, including case studies on metrology (both scientific and legal) to increase awareness with consumers, industry, other regulators and government. A workshop to share lessons and best practice is planned for the first half of 2017, with the web portal expected to go live in April-May 2017. Dr Coleman noted that APEC is looking for such case studies.

10.8. SIM (InterAmerican Metrology System) – Dr Magdalena Navarro

Dr Navarro presented the [SIM report](#). She noted that SIM is currently considering the benefits of becoming a legal entity. This would involve establishing a permanent secretariat and bank account but would also increase costs; this is being discussed at the SIM GA this week. Noting that not all SIM economies are APEC members, Dr Samuel noted the successful APEC Workshop on Renewable Energy and Climate Science that the US and China organised with APMP 2015 in Beijing. Is SIM thinking about increasing its engagement with APEC? Dr Navarro referred to her presentation slide regarding *Current SIM Projects/Support* and advised that US\$750k has been allocated to SIM projects but a number of needs have to be addressed. Dr Early asked how widespread third party accreditation is. Dr Navarro replied that some sub-regions do this more than others.

11. Introduction of APMP Work Plan for 2017 (Dr Takatsuji)

Dr Takatsuji presented the [APMP Work Plan for 2017](#). It was prepared with Dr Fisk and is based on the 2016 Work Plan. It will be considered for approval at the closed session of the GA. While it is hoped that the next stage of MEDEA funding will be approved, APMP must consider collaboration after the MEDEA project. Professor Li asked if there were any plans to support the CBKT program? Dr Takatsuji replied that funding for participation in CBKT activities will come from the TCI, FG, and DEC budgets. Dr Samuel noted that the DEC Budget identified support for the CBKT program, could this be considered at an over-arching level in the APMP Budget? Dr Takatsuji advised that this was not specifically discussed, but can comprise discussion on capacity building in APMP; there are mechanisms to raise project through the DEC, TCIs, and FGs. Dr Miki commented that the Work Plan includes assistance for TC Chairs to travel to the BIPM. Dr Fisk replied that there is a general expectation that RMOs will send representatives to the BIPM CC MRA WGs; this is important while changes to the implementations are occurring, but may not be sustainable in the long-term.

12. Key Matters Arising from Reports of APMP Member Institutes

12.1. CMS/ITRI, Chinese Taipei

Dr Lin invited all delegates to celebrate the [30th anniversary of CMS-NML](#) on 5 May 2017.

12.2. ITDI, Philippines

Dr Azanza advised that NML-ITDI is transitioning to integrate chemical, biological and physical metrology in the one institute.

12.3. NMIJ/AIST, Japan

Dr Akiharu Hioki spoke about the Emerging Scientists Workshop (ESW 2017). The objective of the ESW is to promote sustainable collaborations of next generation scientists among leading NMIs from APMP. ESW 2017 will be held at NMIJ in Japan (30 August – 1 September 2017, TBC). The fees are expected to be within the range of US\$150-US\$200. Further details will be announced to APMP members by April 2017.



13. Report from Focus Group Chairs

13.1. [Energy Efficiency](#) – Professor Shiohattana

The EEFG held its first Workshop this year in conjunction with the GA program. In September 2016, the EEFG circulated a questionnaire to APMP members which identified that the food, textile, electrical, electronics, automotive, petroleum oil, and gas industries play a major role in APMP economies. The questionnaire also identified that metrological knowledge can assist with energy efficiency for buildings, energy intensive manufacturers, and the oil, gas, and renewable energy sector. The EEFG has three areas of focus: green building, energy intensive industry, and renewable energy. Another workshop is planned with the Mid-Year Meetings in 2017 in Malaysia.

13.2. [Climate Change and Clean Air](#) – Dr Kim

This FG has changed its name to the *Climate Change and Clean Air* Focus Group (CCAFG) to increase its relevance to developing economies. A workshop entitled *Workshop on Metrology for Climate Change* was held as part of APMP 2016 with 25 participants from 11 economies. The workshop covered chemical and physical metrology for climate change as well as sensor development and remote monitoring. The terms of reference for the CCAFG were revised in November 2016 and presented; the draft work plan and planned stakeholder engagements were also presented.

13.3. [Medical Metrology](#) – Dr Chen

Dr Chen advised that the MMFG currently has 11 members from 8 economies. The revised terms of reference and the draft work plan for 2017 were presented. A workshop on non-invasive blood pressure (NIBP) measurements is proposed to be held separately from APMP meetings to increase participation. Development and pattern approval of NIBP devices is one of the priority projects in APLMF and the MMFG is planning to collaborate with the APLMF WG on medical measurements.

13.4. [Food Safety](#) – Professor Li

Professor Li provided an update on the work of the FSFG, including the APEC Workshop on Measurement Standards for Grain Food Safety and Free Trade, incorporating the 2nd meeting of the APMP Food Safety Focus Group, held with APMP 2016. The workshop focused on regulation, standards, traceability in chemistry, testing methods, and PT activities on mycotoxins and heavy metals. Professor Li discussed the workshop outputs, suggestions to improve focus group interaction within APMP, and the structure and forward work plan for the FSFG.

Dr Fisk asked if the FSFC is widening its scope to cover other disciplines such as humidity and moisture content? Professor Li replied that there is interest but there is a need to prioritise urgent needs and key factors in the food safety area.

Dr Inglis applauded the progress made by the FGs and commented that the work is very impressive and a wonderful achievement. There is a need for more multi-disciplinary efforts to solve problems and this is an increasingly important factor for an NMI to use as a “selling” point. It is a strong message to send out to governments and other stakeholders of NMIs.

Dr Iqbal (NPSL, Pakistan) noted that very few developing economies are participating in focus groups, and that although a particular developing NMI may not be active in a particular area, participation in the focus group will enhance its capability. Dr Fisk added that the NMI does not need to know how to solve the problem, but may have an interest in the problem. Dr Liew added that there are many aspects to food safety, for example TCMM could look at packaging issues.



14. Lead TC Chair Report (*Dr Peter Manson*)

Dr Manson presented a [summary](#) of the TC Chairs Meeting held on Sunday 13 November 2016. There were three main topics of discussion: the MRA review, interaction with FGs, and the MEDEA Program.

- **MRA Review:** Interaction with the accreditation community is needed, e.g. for Recommendations 3B and 4A. The proposal of using representative CMCs was greeted with a luke-warm response by TC Chairs. Harmonisation across RMOs is becoming more important and on-site peer reviews can assist to build confidence. There was a proposal that intra-RMO CMC review becomes part of the on-site peer review with no further intra-RMO review required. However there was concern as to whether on-site peer reviews can be as complete and whether the scope of the peer review would have to be expanded? TCEM will perform a few on-site peer reviews as a trial and will feed back the results. This will be discussed again at the next TC Chairs Meeting.
- **Focus Groups:** Communication is the key to enhancing interaction between TCs and FGs. FG Chairs were invited to the TC Chairs Meeting and led to very good suggestions being made. Dr Manson feels that interaction between TCs and FGs is occurring naturally.
- **MEDEA:** Dr Rashid made a presentation on the MEDEA program at the TC Chairs Meeting and the news of MEDEA 2.0 was very welcome.

15. Reports on TC Activities – a TC presentation was provided with each report

- **TCAUV – Mr Yu Chung Huang**
Two collaborations have been proposed with the Medical Metrology Focus Group. Dr Huang noted that RCM-LIPI (Indonesia) has designed a very low frequency vibration exciter for seismometer verification (0.2Hz to 80Hz).
- **TCEM – Dr Murray Early**
With regard to TCEM's engagement with FGs, Professor Shiwattana provided a short report on the Energy Efficiency FG and Dr Sheng-Jui Chen on the Medical Metrology FG. TCEM is considering having a focus group component in its 2017 workshops. There is a proposal for DC voltage training in mid-2017, with funding to be sought from MEDEA for DEC participants. TCEM are working through a number of CMC Reviews. There is no appetite to move to representative CMC form. TCEM held an informal meeting at CPEM 2016 in Ottawa, Canada.
- **TCFF – Dr Yong-Moon Choi**
Following a workshop held with the 2017 APMP meeting, there are plans for a TCI project in 2018 on *Smoke Stack Gas Flow Measurement*. There has been a suggestion that TCFF establish working groups to cover specialist topics.
- **TCL – Dr Chu-Shik Kang**
Dr Kang advised that TCL had nominated contact points for each Focus Group. The contact points come from the same NMI as the Chair of the Focus Group. TCL has submitted one TCI application for 2017 (pilot study on foil/film thickness comparison) which may be a co-study with TCMM. There was discussion regarding commercial calibrations as bilateral comparisons. Dr Jariya Buajarern (NIMT) has been elected as the next TCL Chair, to commence from 2018.



- **TCM – Dr Shih Mean Lee**
TCM are considering holding a workshop in conjunction with the APLMF Meetings. Dr Lee highlighted points from the TCM Strategic Document and issues raised from the TCM Meeting. If the next phase of the MEDEA project proceeds, this will be focused on assisting NMIs without CMCs. There has been strong interaction with the Medical Metrology Focus Group (MMFG), especially in relation to non-invasive blood pressure monitors. Dr Sheng-Jui Chen (CMS/ITRI) from TCM is Chair of the MMFG. Dr Chen, as MMFG Chair, made a presentation to TCM about possible collaboration and proposed an action plan which was also communicated to the MMFG.
- **TCMM – Dr Victoria Coleman**
Dr Coleman also noted the proposal for a pilot study on foil/film thickness comparison with TCL and a proposed supplementary comparison on thin film thickness. TCMM have developed a “TCMM Linkages” document showing linkages with Focus Groups, APMP TCs, CCs, and external stakeholders, noting that materials metrology does not have a corresponding CC. Dr Coleman thanked Dr Fujimoto for his Chairmanship of TCMM.
- **TCPR – Dr Tatsuya Zama**
The ILAC P-10 policy document was discussed in relation to reducing numbers of CMCs. Dr Zama noted discussion on the future standard light source for photometry, possibly to be based on LEDs or halogen lamps.
- **TCQS – Dr Isao Kishimoto**
Dr Kishimoto noted that QS approval procedures have led to some difficulties and confusion, especially regarding the sequence of technical review depending on the pathway taken. Existing documents will be revised and new documents created to address this. Dr Ilya Budovsky attended the TCQS meeting and contributed to the discussion on the QS review process. Dr Kishimoto noted that differences in the new ISO/IEC 17025 will need to be addressed, e.g its impact on on-site peer reviews after 2017. A TCQS Workshop will be organised in 2017.
- **TCQM – Professor Ma Liandi**
APMP has one third of the QM claims in the KCDB. Chairs of the Food Safety Focus Group and the Climate Change Focus Group were invited to the TCQM Meetings. TCQM is working with four FGs. The APMP-APLAC Joint PT WG Meeting was held with the 2016 APMP meetings on 13 November 2016. Dr Uematsu (APLAC) noted that APLAC is very happy with collaboration with APMP via TCQM. APLAC appreciates the efforts that have been made and looks forward to continuing this working relationship.
- **TCRI – Dr Chul-Young Yi**
Responses to the CIPM MRA review were discussed, including a plan to shorten the comparison period. TCRI will support the Medical Metrology and Clean Water Focus Groups. Dr Yi advised that TCRI is working to reduce the number of APMP RI CMCs, noting that the number in the KCDB (4000) represents 17% of the total registered CMCs.
- **TCT – Dr Wang Li**
TCT CMC submission guidelines were reviewed and circulated with new CMC submissions being called for on 1 June 2016. 125 CMCs have been submitted and the review will be completed by the end of 2016. Five peer reviews were organised in 2016.



- **TCTF – Dr Michael Wouters**

Two TCI projects are underway, the open traceable time platform due for completion in February 2017, and the GNSS receiver delay calibration having reached the half-way mark in its progress. The next Asia-Pacific Workshop on Time & Frequency (ATF) will be held in conjunction with APMP 2017. Dr Aimin Zhang (NIM) has been elected as incoming TCTF Chair, to commence his term in 2018.

Dr Fisk congratulated all TC Chairs for their work, adding that NMI Directors should be proud of what has been achieved. NMI Directors should review the TC and FG presentations and reflect on whether the activities represent the best use of our resources.

16. Open Discussion

Dr Fisk led the discussions for items under Agenda Item 16.

Dr Pinandito delivered a presentation as Chair of the Clean Water Focus Group (CWFG). He noted that climate change affects all APMP economies. The vision, mission, and scope of the CWFG was presented. The first Clean Water workshop will be held at Bangka Island, Indonesia in mid-2017. Dr Pinandito invited all APMP members to join the CWFG. Dr Rashid noted that clean water affects flow measurement because there are problems with water being “unclean” and clogging water heaters during flow measurement.

Mr Panga (NISIT, PNG) congratulated all on the good work that has been undertaken.

Meeting Adjourned

Day 1 of the GA was adjourned at 5:35pm.



Day 2: Friday 18 November 2016, 09:00 - 11:15 – Closed Session

Present: Dr Peter Fisk (Chair, NMIA), Mr Yusuf Khan (Secretariat, NMIA), Dr Seungnam Park (EC Member, KRIS), Dr Yu-Ping Lan (EC Member, CMS-ITRI), Dr Toshiyuki Takatsuji (Chair-Elect, NMII), Dr Thomas Liew (Treasurer, NMC-A*STAR), Dr Osman Zakaria (EC Member, NMIM), Mr Zhang Yue (EC Member, NIM), Professor Prayoon Shiwattana (DEC Chair, NIMT), Mr Takehiro Morioka (APMP Secretary-Designate), Dr Peter Manson (Lead TC Chair).

Representatives From: NMIA, NIM, CMS/ITRI, Chunghwa Telecom Co Ltd, SCL, GL, RCM-LIPI, NMII, NICT, CERI, JEMIC, KRIS, NMIM, Nuclear Malaysia, KIMIA, MSL, NISIT, ITDI, VNIIM, NMC-A*STAR, HSA, MUSSD, NIMT, OAP, VMI, TCEM, TCPR, TCQS.

Present by Proxy: NPSL: Proxy to NIM
MASM: Proxy to NMIA

Dr Fisk conducted a roll call and confirmed that a quorum was present with 16 eligible voting member economies, and 2 voting member economies being officially represented by proxy:

- Pakistan: Proxy to China
- Mongolia: Proxy to Australia

17. Vote on Membership Applications

The GA approved the Associate Membership applications of COSQC (Iraq) and NMCI (Iran) and it was resolved that a postal vote will be conducted to ratify their Associate Membership of APMP.

RESOLUTION GA32-01: The applications for Associate Membership by COSQC (Iraq) and NMCI (Iran) have been approved by the GA and a vote to ratify their membership is to be conducted by postal vote.

18. Status of EC Members (Dr Fisk)

18.1. Introduction of EC Candidate Members

Dr Wu (NIM) introduced Ms Gao Wei as a candidate for the EC (after Ms Gao Wei had left the meeting room). Dr Fisk added that the EC believes she will be a valuable member of the EC. Dr Fisk invited discussion of Ms Gao Wei's candidature; there was no discussion.

18.2. Vote on New EC Members and Service Term Extensions for Current EC Members

A secret ballot was conducted for the election of Ms Gao Wei to the EC. Ms Gao Wei was unanimously elected to the EC by the GA.

Dr Fisk invited discussion of the proposal to extend, by one year, the terms of Dr Liew and Dr Park as EC members (after Dr Liew and Dr Park had left the meeting room); there was no discussion.



The ballot for the term extensions was conducted by a show of hands. The ballot was conducted by Mr Khan with support from Mr Morioka. The GA unanimously approved both extensions.

19. Introduction of TC Chairs-Elect (*Dr Manson*)

Dr Manson introduced and endorsed Dr Jariya Buajarern (NIMT) as the TC Chair-Elect for TCL and Dr Aimin Zhang (NIM) as TC Chair-Elect for TCTF; both are to commence their terms from 2018. The GA confirmed the appointments of both Dr Buajarern and Dr Zhang.

20. APMP Strategy (*Dr Takatsuji*)

Dr Takatsuji asked for comments on the 2017 APMP Work Plan, and also invited discussion on the Focus Groups (FGs). He noted the concerns that there is not enough participation from developing NMIs and asked if the FG topics are appropriate. With a number of FGs planning activities with the Mid-Year Meetings or the GA, there is also a concern that there are too many activities being conducted at the same time. He asked if the FG activities need to be more aligned with industry needs. Clean Water and Food Safety are easy to understand, but Medical Metrology is a difficult field. With Energy Efficiency, success stories can help convince industry and governments of the importance of metrology.

Views expressed by members reinforced the value of the FG activities. Specific comments are provided below.

- Professor Shiowattana (NIMT) agreed that case studies can help, for example re: trade and greenhouse gas emissions. Mr Panga (NISIT) added that, from a DEC perspective, having case studies would assist in resolving realistic challenges as well as help putting the case forward to governments.
- Dr Miki (NMIJ) commented that the FGs complement APMP's traditional activities to address societal needs, although it is difficult to address every need from every economy. He suggested that, as well as budgeting for FG projects from the TCI funds, there could also be a contribution from DEC funds.
- Mr Zviagin (VNIIM) commented that the work of the FGs is important for Russia because government needs to know that metrology is addressing societal needs. TCs represent only one measurement field, but FGs bring together specialists from many fields and make it is easier to explain and justify metrological activities. FGs are a great initiative and a great idea.
- Dr Pinandito (RCM-LIPI) noted that developing NMIs must focus resources on providing the best capabilities to their economy. We have to look at the structure of industries in different economies, e.g. in manufacturing, metrology can be applied to many different aspects. Developing NMIs should look at national policies and see how the FGs fit in with these. In terms of the other matters raised, he recommended that FG Workshops be held in conjunction with APMP meetings so as to reduce travel costs.
- Dr Samuel (NMIA) added to Dr Pinandito's comment that developing NMIs link the FG activities to issues at the national level by highlighting the DEC workshop held with the 2016 mid-year meetings which asked DEC's to think about the economic and policy



drivers relevant to the FG topics. She also added that the cross-disciplinary approach is being used by PTB to persuade the German Government to fund MEDEA 2.0 and, similarly, given the thematic forums under APEC, the FGs can improve APMP's linkage with APEC by demonstrating the importance of measurement to economic and policy issues and sectors.

- Dr Sang-Ryoul Park (KRISS) reinforced the need to link with thematic activities in international organisations through the FG activities. This could assist APMP in accessing funding support and ease budgetary constraints.
- Dr Azanza (ITDI) recommended that participants in the FGs take their national agenda to the FGs. She added that she will be promoting this discussion domestically.
- Dr Lin (CMS/ITRI) noted the current challenges of convincing decision makers of the importance of our activities due to the long-term nature of research. In a particular case it took 15 years to develop an instrument.
- Dr Liew added that the FG activities can assist in foresighting new trends in technology to help prepare our economies and workforce.
- Dr Manson commented that TCs do not see the pipeline to connect to society, but that FGs should be able to clarify this for the TCs.
- Dr Lee (SCL) noted that articulating societal issues in the FGs will encourage participation.

Dr Takatsuji concluded this discussion by thanking members and confirming that APMP does not propose to slow down the FG activities. He noted that the FGs can assist both developed and developing countries, and the exchange of information to convince governments is very important. Dr Fisk added that APMP's work program to support members' effective participation in the CIPM MRA is of course paramount. However the FGs were created to take advantage of our networks to benefit our region and our stakeholders. Dr Liew compared APMP to a company suggesting that TCs are our vertical capabilities and the FGs are our horizontal resources. Not all TCs will contribute to all FGs, but we have to tackle problems together, with most issues now regional and/or global. How can we put ourselves in that picture, to engage with regional bodies and solve regional problems?

Dr Azanza (ITDI) advised that those who participate in FGs need to take their national agenda to the FGs. Dr Lin (CMS/ITRI) advised that in a particular case it took 15 years to develop an instrument, and that research takes time. We need to convince decision makers that the process, from beginning to end, takes a long time. Dr Liew added that through these activities, we can sense what is coming in terms of technology and from that we can prepare our economies and workforce. Dr Manson commented that TCs don't see the pipeline to connect to society, FGs should be able to clarify the pipeline for the TCs. Dr Lee (SCL) noted that if we put issues into the FGs, it will put those issues into the focus of society and economies will want to participate in the FGs.

Dr Takatsuji thanked everyone for their input and closed the discussion. Dr Fisk also thanked everyone for the discussion and valuable input into the FGs.



21. Votes on Resolutions

21.1. Resolution to Retain Secretariat Support Funding at US\$20k

Dr Samuel (NMIA) asked developing NMIs whether the amount of US\$20,000 p.a. was sufficient for them to consider taking on the role of Secretariat. Mr Panga (NISIT) advised that it would be a big challenge for Papua New Guinea but they thought it could work together with government support. Dr Takatsuji advised that NMIJ had not decided if it would access the Secretariat funding, but noted that it is essential for the future. Dr Fisk added that in addition to this support, travel support is available for the Chair and Secretariat up to US\$3k per trip. Dr Fisk noted that NMIA had not accessed the Secretariat funding in 2016.

Dr Fisk then proposed the following resolution to the Closed Session of the GA:
The APMP Budget shall, until otherwise decided by the GA, include US\$20,000 to support the APMP Secretariat.

The resolution was agreed to unanimously.

21.2. Resolution to Ratify Amendments to the MoU

The amendments to the MoU are as follows:

1. Dr Liew explained that the first proposed change to the MoU, in the *Preamble*, reflects the changes required by APMP's bank, the Standard Chartered Bank (Singapore) which is subject to regulation. Noting that APMP is not a legal entity, the Bank needs to record a permanent address in Singapore as well as the date APMP commenced as an organisation.
2. Attachment 1, *Modus Operandi*: Amendment to note that organisations seeking membership of APMP are to include a document describing the applicant organisation. A further amendment is to allow for postal or e-mail votes when voting on new members to join APMP.
3. Article 6, Technical Committees: Current text: Each *Technical Committee will be conducted according to the 'Guidelines for operation of APMP Technical Committees'*. This document does not exist so the proposed amended phrase is to state that TCs will be conducted according to the *following guidelines*. Other amendments relate to the TC Chairs, the TC Chairs' Forum, and the role of the Lead TC Chair.
4. Article 10, APMP Secretariat: Clause 10.8 has been added to state that the address of the APMP Secretariat will serve as the operating address of APMP.

Dr Fisk proposed the following resolution to the Closed Session of the GA:

The proposed revisions to the APMP MoU discussed at the 2016 General Assembly will be presented to Full Member Economies for approval by postal vote as soon as possible after the 2016 General Assembly.

The resolution was agreed to unanimously.



21.3. Resolution that Dr Park and Dr Liew's Terms on the EC be extended by One Year in Accordance with the MoU

This has already been covered at item 18.2.

22. Approval of APMP Work Plan and Budget Plan for FY 2017

Dr Liew advised that the total budget is US\$220k and there is provision in the budget to move funds between line items.

Dr Samuel asked about the APMP website and plans to further develop this. Dr Takatsuji responded that APLMF has drastically changed their website. There is no urgent need to revise the APMP website, and it is not a good idea to move the location of the website when the Secretariat changes. Responding to comments regarding the APMP-APLMF web portal, Dr Samuel clarified that there is no intention that this would replace the individual APMP and APLMF websites; it is instead intended to be a conduit to access information about legal and physical metrology, with promotional case studies, etc., and to direct users to the APMP or APLMF website as appropriate. Dr Fisk noted that APMP could consider using the same web hosting company as APLMF if it wishes to revamp its website.

Professor Shiowattana asked if the DEC budget can be rolled over from the previous financial year. Dr Liew advised that the EC will consider this proposal.

Dr Fisk proposed the following resolutions to the Closed Session of the GA:

The APMP Work Plan for 2017 presented at the GA on 17 November is approved.

The APMP Budget for 2017 presented at the GA on 17 November is approved.

The resolutions were agreed to unanimously.

End of Closed Session

The Closed Session of the GA was adjourned at 11:15am.



Day 2: Friday 18 November 2016, 11:40 - 14:00 – Open Session

Present: Dr Peter Fisk (Chair, NMIA), Mr Yusuf Khan (Secretariat, NMIA), Dr Seungnam Park (EC Member, KRIS), Dr Yu-Ping Lan (EC Member, CMS-ITRI), Dr Toshiyuki Takatsuji (EC Member, NMIJ), Dr Thomas Liew (Treasurer, NMC-A*STAR), Dr Osman Zakaria (EC Member, NMIM), Mr Zhang Yue (EC Member, NIM), Professor Prayoon Shiwattana (DEC Chair, NIMT), Mr Takehiro Morioka (APMP Secretary-Designate), Dr Peter Manson (Lead TC Chair).

Representatives From: NMIA, NIM, CMS/ITRI, INER, Chunghwa Telecom Co Ltd, SCL, GL, KIM-LIPI, RCCChem-LIPI, PTKMR-BATAN, NMIJ, NICT, CERI, JEMIC, KRIS, NMIM, Nuclear Malaysia, KIMIA, MSL, NISIT, ITDI, VNIIM, NMC-A*STAR, HSA, MUSSD, NIMT, TISTR, OAP, VMI, KazInMetr, NMISA, TCAUV, TCEM, TCF, TCL, TCM, TCMM, TCPR, TCQS, TCQM, TCRI, TCT, TCTF, , EEFG, CCFG, MMFG, FSFG, CWFG, PTB-MEDEA Project, CIPM, AFRIMETS, GULFMET, SIM, APLAC, APEC SCSC.

Observer: DSM (Laos)

Change of Proceedings

Dr Fisk proposed to reverse the order of items 23 and 24 on the agenda. There was no disagreement.

23. Announcement of Closed Session Outcomes (Dr Fisk)

Dr Fisk announced the outcomes from the closed session of the GA:

- Ms Gao Wei (NIM) has been elected to the EC for a term of 3 years.
- The extensions by one year of Dr Liew and Dr Park's terms on the EC have been approved, extending their term to 4 years.
- Dr Aimin Zhang (NIM) has been approved as the TCTF Chair-Designate and Dr Jariya Buajarern (NIMT) as the TCL Chair-Designate.
- The APMP Budget shall, until decided otherwise by the GA, include US\$20k to support the APMP Secretariat.
- The 2017 APMP Work Plan presented to the GA on 17 November is approved.
- The 2017 APMP Budget presented to the GA on 17 November is approved.
- The amendments to the MoU were discussed and approved in-principle, although the closed session of the GA resolved to conduct a postal vote to ratify the changes. The Secretariat will conduct the postal vote.

24.1. Presentation of Approved Work Plan and Strategy (Dr Takatsuji)

With regard to the approval of the APMP 2017 Work Plan and Strategy, Dr Takatsuji informed the open session participants that there was robust and stimulating discussion in the closed session regarding the direction of the FGs, and Dr Takatsuji is now confident that NMI Directors are in favour of FG activities.

He also noted that APMP's inputs to the CIPM MRA Review recommendations are very



important. He added that APMP will actively participate in the BIPM CBKT program and would like to co-ordinate activities in this area. Noting that the current MEDEA program will terminate at the end of 2017, although there is a strong possibility it will continue, APMP needs to create a sustainable infrastructure to support DEC's after the conclusion of the program.

Formal Handover of Chair and Secretariat Roles from Australia to Japan

At this point in the meeting, Dr Fisk formally handed the APMP Chair and Secretariat roles to Dr Takatsuji and NMIJ respectively. Dr Fisk invited Dr Takatsuji to chair the remainder of the meeting.

24. Discussion of MoU Amendments

Dr Liew and Dr Fisk explained the proposed amendments to the MoU to the open session, as per the outline under Agenda Item 21.2.

25. Remarks from Outgoing APMP Chair, APMP Chair-Elect, and Newly Elected EC Members and TC Chairs

Dr Takatsuji thanked the out-going TCFF, TCRI, and TCMM Chairs, and out-going EC Member Mr Zhang for their contribution and support over the previous three years.

Dr Fisk addressed the GA and said the being APMP Chair had been one of the greatest privileges of his life. He has enjoyed interacting with all members of APMP and has been overwhelmed by the work that APMP is undertaking and amazed at how APMP is helping our region. However, because of his other responsibilities as an NMI Director he felt like he had only achieved about 20% of what he had hoped to achieve. Dr Fisk thanked the former and current APMP Secretaries Noleen Grogan, Anne Davoren, and Yusuf Khan for their hard work and support during his tenure as APMP Chair and gave special thanks to Dr Angela Samuel noting that much of what he had achieved during his term as Chair was due to Dr Samuel's support. He wished the new Chair and Secretariat the best of luck and thanked the EC and Dr Barry Inglis (CIPM) for their support. Dr Fisk concluded that he looks forward to seeing APMP prosper in the future.

Dr Victoria Coleman (incoming TCMM Chair) expressed her honour in taking on the role of TCMM Chair and looked forward to establishing a good working relationship with everyone, including the TC Chairs.

Dr Jinjie Wu (incoming TCRI Chair) noted that his first attendance at APMP was in 2011 and now he has the honour to serve as TCRI Chair. He said that he will try his best to serve APMP and to get the certification for graduation – a technical service award!

Dr Chun-Min Su was not present but was welcomed as the new TCFF Chair.

Ms Gao Wei (incoming EC Member) stated that it was an honour to be elected to the EC. She thanked all economies for their support and particularly Dr Fisk and Dr Liew for proposing



her as an EC candidate. Ms Gao Wei noted that she joined the APMP family in 2004 and since then has been devoted to international collaboration and research. The previous decade has been a golden time for NIM and she has made connections with NMIs around the world. Ms Gao Wei said that she would try her best to contribute to APMP and support the Chair and all APMP economies.

Dr Takatsuji addressed the GA noting that it had been one year since he became APMP Chair-Elect. He expressed his deepest gratitude to Dr Fisk for his contribution to APMP. Dr Takatsuji said he looked forward to working for APMP, which was one of the best RMOs in the world, and working with the members of APMP. There are lots of interesting and difficult issues ahead, but with generous support, we will be able to manage the issues and contribute to APMP.

26. Discussion on Future Meetings

26.1. Mid-Year Meeting 2017

NMIM has kindly agreed to host the APMP Mid-Year Meetings in Malaysia. The Mid-Year Meetings will be held from 21-26 May 2017.

26.2. 33rd GA 2017

Conveying their apologies for not being present, Mr Khan delivered a presentation on behalf of NPLI (India) who have expressed an interest hosting the APMP 2017 meetings. The tentative dates for the 2017 GA as proposed are from 26 November to 1 December 2017, with related events held a few days earlier.

26.3. 34th GA 2018

Dr Liew delivered a presentation on behalf of NMC-A*STAR who have expressed an interest in hosting the APMP GA in 2018. The proposed dates for the APMP 2018 meetings are 23-30 November 2018.

27. Summary of Meeting Resolutions

ACTION GA32-01: The Secretariat will write to Kazakhstan (KazInMetr), Egypt (NIS), The Philippines (ITDI), and Indonesia (KIM-LIPI and DI's) to advise them of changes to their membership fees.

RESOLUTION GA32-01: The applications for Associate Membership by COSQC (Iraq) and NMCI (Iran) have been approved by the GA and a vote to ratify their membership is to be conducted by postal vote.

RESOLUTION GA32-02: The APMP Budget shall, until otherwise decided by the GA, include US\$20,000 per year to support the APMP Secretariat.



The 32nd APMP General Assembly

[GA-32]

Lotus Rooms 2 & 3, Pullman Danang Beach Resort
Da Nang, Vietnam
17 - 18 November 2016

RESOLUTION GA32-03: The proposed revisions to the APMP MoU discussed at the 2016 General Assembly will be presented to Full Member Economies for approval by postal vote as soon as possible after the 2016 General Assembly.

RESOLUTION GA32-04: The APMP Work Plan for 2017 presented at the GA on 17 November is approved.

RESOLUTION GA32-05: The APMP Budget for 2017 presented at the GA on 17 November is approved.

RESOLUTION GA32-06: Dr Aimin Zhang of NIM is approved as TCTF Chair to commence from GA 2017.

RESOLUTION GA32-07: Dr Jariya Buajarern of NIMT is approved as TCL Chair to commence from GA 2017.

28. Meeting Closure

Mr Morioka introduced himself as the new APMP Secretary and Ms Chieko Tabata (NMIJ/AIST) also introduced herself as a member of the new APMP Secretariat. Dr Takatsuji thanked all delegates and participants who attended the 32nd APMP GA and Related Activities and made a special vote of thanks to our hosts, the Vietnam Metrology Institute (VMI).

The meeting was closed at 2:00pm.