



Asia Pacific Metrology Programme

**APMP Report to EURAMET GA
May 2018**

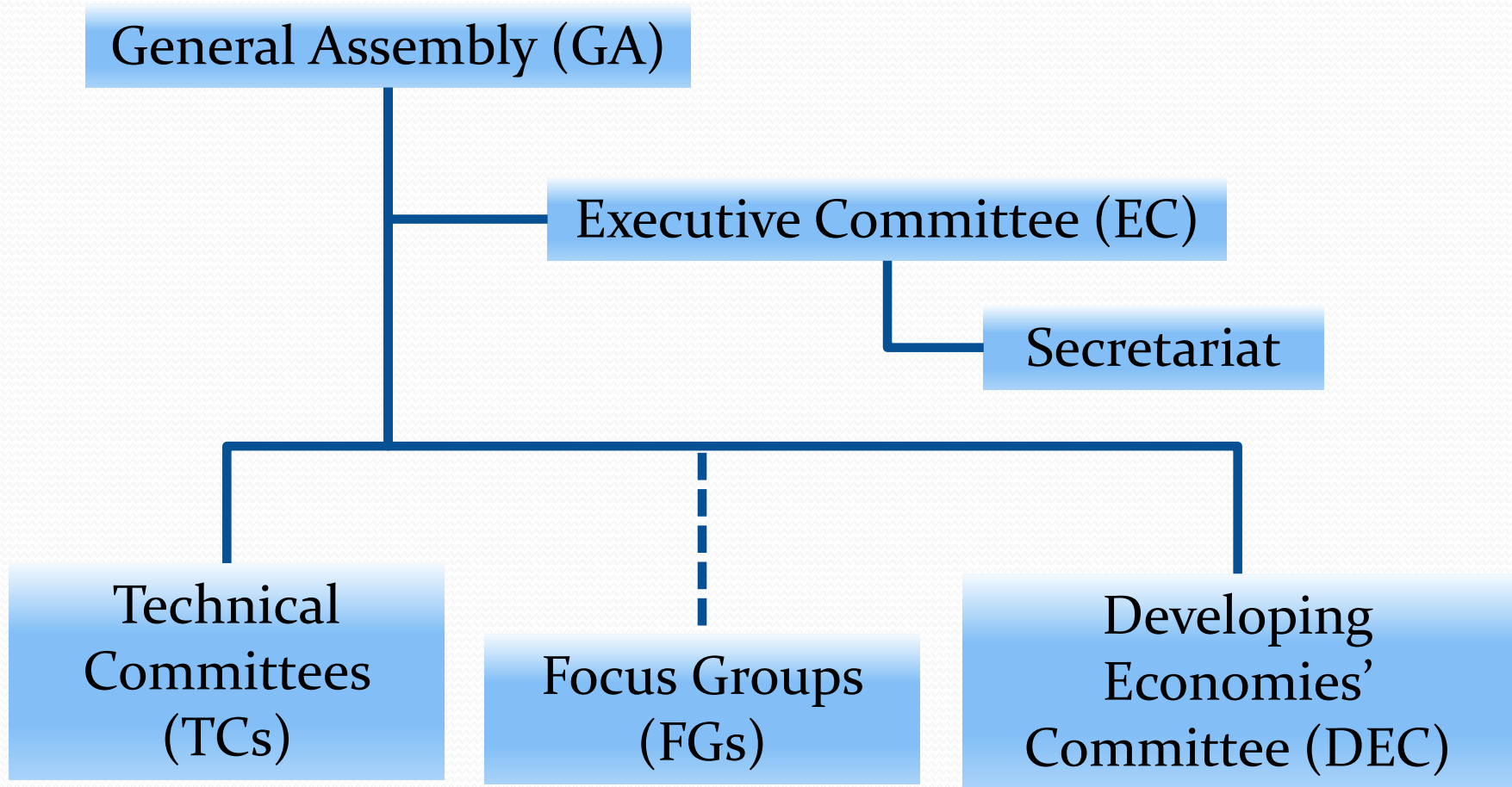
Bucharest, Romania

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APMP Organization Chart



Governance Updates

The APMP General Assembly and Related Activities 2017 were held in New Delhi, India from 24 November -1 December 2017.

- Election of 2 Executive Committee members:
 - Dr Jan Herrmann, **Australia**: 2017-2020
 - Dr Yon-Kyu Park, **Republic of Korea**: 2017-20
- New Lead Technical Committee (TC) Chair:
Dr Chu-Shik Kang, **Republic of Korea**, 2017-20



3 new TC Chairs taking office:

- **Fluid Flow**: Dr Takashi Shimada, **Japan**
- **Length**: Dr Jariya Buajarern, **Thailand**
- **Time & Frequency**: Prof Aimin Zhang, **China**



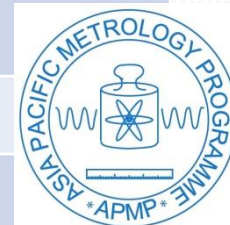
Executive Committees

| Name | Lab | Economy |
|---------------------|-----------|----------------|
| Toshiyuki Takatsuji | NMIJ | Japan |
| Osman Zakaria | NMIM | Malaysia |
| Yu-Ping Lan | CMS, ITRI | Chinese Taipei |
| Gao Wei | NIM | China |
| Jan Herrmann | NMIA | Australia |
| Yon-Kyu Park | KRISS | Korea |



Technical Committees

| TC | Name | Lab | Economy | Corr. CC |
|---------------|------------------|-------------|----------------|-----------|
| Lead TC Chair | Chu-Shik Kang | KRISS | Korea | Corr. CC |
| TCAUV | Yu Chung Huang | CMS, ITRI | Chinese Taipei | CCAUV |
| TCEM | Murray Early | MSL | New Zealand | CCEM |
| TCFF | Takashi Shimada | NMIJ, AIST | Japan | CCM, WGFF |
| TCL | Jariya Buajarern | NIMT | Thailand | CCL |
| TCM | Shih Mean Lee | NMC, A*Star | Singapore | CCM |
| TCMM | Victoria Coleman | NMIA | Australia | N/A |
| TCPR | Tatsuya Zama | NMIJ, AIST | Japan | CCPR |
| TCQM | Ma Liandi | NIM | China | CCQM |
| TCQS | Isao Kishimoto | NMIJ, AIST | Japan | N/A |
| TCRI | Jinjie Wu | NIM | China | CCRI |
| TCT | Li Wang | NMC, A*Star | Singapore | CCT |
| TCTF | Aimin Zhang | NIM | China | CCTF |



Membership Updates

New Full Members in 2017 and 2018:

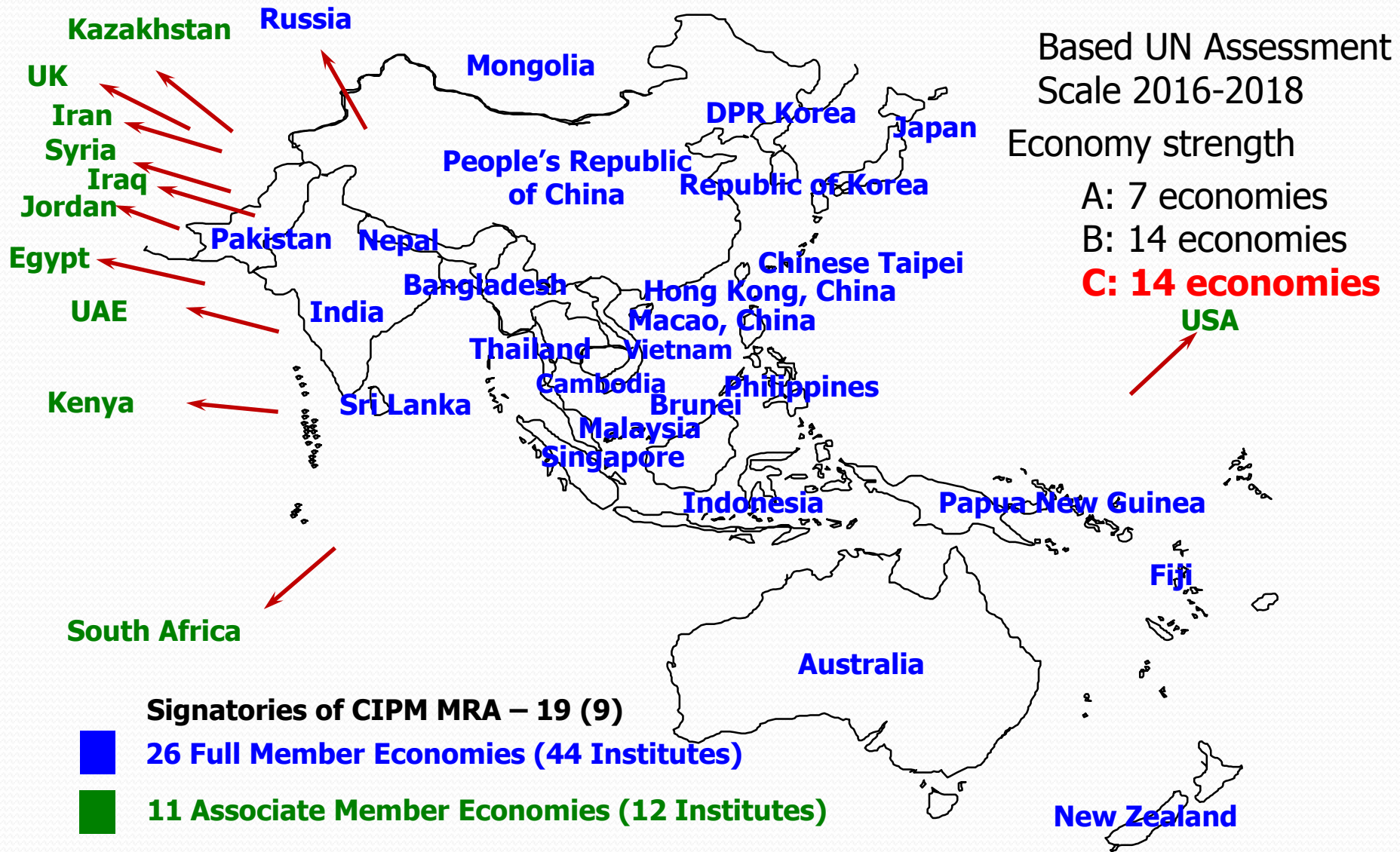
- National Nuclear Energy Agency of **Indonesia**
- Public Health Laboratory, **Macao, China**
- Measurement Standards Laboratory, **Brunei Darussalam**

New Associate Members in 2017:

- National Metrology Center of **Iran**
- Central Organization for Standardization and Quality Control, **Iraq**
- National Physical Laboratory, **UK**



Members of APMP



Participation in Meter Convention and CIPM-MRA

| Economy | Lab | M.C. | MRA | DI |
|------------------|-----|------|-----|----|
| Australia | 3 | ✓ | ✓ | 2 |
| Bangladesh | 2 | (✓) | ✓ | 1 |
| Brunei | 1 | | | |
| Cambodia | 1 | ✓ | | |
| China | 1 | ✓ | ✓ | 1 |
| Chinese Taipei | 3 | (✓) | ✓ | 3 |
| DPR of Korea | 1 | | | |
| Fiji | 1 | | | |
| Hong Kong, China | 2 | (✓) | ✓ | 1 |
| India | 2 | ✓ | ✓ | 1 |
| Indonesia | 2 | ✓ | ✓ | |
| Japan | 4 | ✓ | ✓ | 3 |
| Korea | 1 | ✓ | ✓ | |

| Economy | Lab | M.C. | MRA | DI |
|----------------------|-----|------|-----|----|
| Macao, China | 1 | | | |
| Malaysia | 3 | ✓ | ✓ | 2 |
| Mongolia | 2 | (✓) | ✓ | |
| Nepal | 1 | | | |
| New Zealand | 1 | ✓ | ✓ | |
| Pakistan | 1 | ✓ | ✓ | |
| Papua New Guinea | 1 | | | |
| Philippines | 1 | (✓) | ✓ | 1 |
| Russia ^{*)} | 1 | ✓ | ✓ | 7 |
| Singapore | 2 | ✓ | ✓ | 1 |
| Sri Lanka | 1 | (✓) | ✓ | |
| Thailand | 4 | ✓ | ✓ | 6 |
| Vietnam | 1 | (✓) | ✓ | |

^{*)} Russian NMI is Rosstandart.

Strategic Activities

TC Initiatives: APMP funds R&D projects of significance in addressing current needs of Asia Pacific industry. Proposals approved for 2018:

- **Ionizing Radiation:** Research on the calibration of ionizing chamber and semiconductor detector for mammography
- **Fluid Flow:** Research on the flue gas S type Pitot tube and 3D Pitot tube calibration method and inter-comparison under different flow conditions
- **Time & Frequency:** Comparison of stopwatch calibration methods

Focus Group Strategy: Aimed at developing capabilities and increasing impact of measurement in addressing regional challenges across priority sectors:

- **Energy Efficiency :** *Chair - Thailand*
- **Food Safety :** *Chair - China*
- **Medical Metrology :** *Chair – Chinese Taipei*
- **Climate Change and Clean Air :** *Chair – Republic of Korea*
- **Clean Water :** *Chair – Indonesia*

APMP FGs seek to engage externally including with APEC forums active in these sectors.

Energy Efficiency Focus Group Activities

Contact: iro@nimt.or.th

The Energy Efficiency Focus Group is working on the following projects:

- **Energy Security**
 - Electricity
 - Oil and Gas
 - Solar Cells
 - Wind Power
- **Green Buildings**
 - Insulation
 - LED
 - Chiller Efficiency
- Supporting the energy sector and high energy consumption industries
- Disseminating accurate measurement for energy efficiency



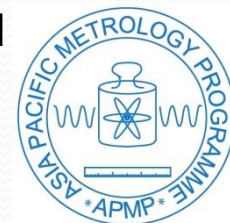
Food Safety

Focus Group Activities

Contact: lihm@nim.ac.cn



- Feb 2017 presentation by Chair of Food Safety Focus Group (FSFG) to **APEC SCSC I** on ***APEC Regional Workshop on Measurement and Standards for Grain Food Safety and Free Trade.***
- May 2017, presentation by Chair of FSFG to **APEC FSCF** on ***Metrology Capacity Improvement and Quality Assurance of Measurement Results in Food Safety***
- Oct 2017, ***APEC Workshop on Capacity Building of Measurement Standards and Technologies in Grain Food Safety*** held in Beijing, China. Topics included: governmental surveillance of food safety, mycotoxin measurement techniques and certified reference materials
- Nov 2017, India: FSFG meeting. Topics included enhancing participation in technical activities and leadership skills, linkages with APLAC in proficiency testing activities
- July 2018, Africa Food Safety Workshop, topics including: analysis and control of mycotoxins, veterinary drugs and pesticide residues, food microbiology, food traceability, and authenticity



Medical Metrology Focus Group Activities

Contact: SJ.Chen@itri.org.tw

- **Scope**

- Support the whole value chain
(from R&D design, to manufacturers and to end users)
- Set up international equivalence on medical measurements
- Traceability of medical devices and diagnostics
- Share mutual experience among NMIs, DIs and TCs

- **Objectives:**

- Development of medical metrology technique, instruments, and facilities
- Develop and Calibrate procedures for medical devices

- **3rd APMP MMFG Workshop 2017**

- Metrology for blood pressure
- Metrology for bone density and radiation based medical imaging
- Medical metrology in various fields



Climate Change and Clean Air

Focus Group Activities

Contact: *slee@kriss.re.kr*

Scope:

- Metrology for climate change and clean air: calibration of instruments and sensors related to stack emission and background measurement.

Objectives:

- To support national measurement standards related to climate change and air quality, including gas, aerosol, flow, temperature, and humidity.

Workshop held in conjunction with APMP 2017:

- Metrology, techniques, and strategy
- Providing pilot studies for emerging NMIs
- Isotope ratio measurements are becoming important
- Plans for a gas analysis workshop



Clean Water Focus Group Activities

Contact: gzaidkim@gmail.com

- **Scope**

- To be part of the solution for the adequate availability of clean water for the world.

- **Objectives:**

- Develop measurement techniques and methods as well as traceability necessary for correct determination of water quality and quantity.
- Provide strategic advice in clean water problems.

- **1st APMP CWFG Meeting 2017**

- 19-20 September, Bogor, Indonesia – symposium, workshop, and FG meeting
- Symposium had 155 participants
- Workshop had 135 participants



Support for Developing Economies

German Government funded project to develop capability in legal and scientific metrology in the Asia Pacific (MEDEA*)

E.g, training workshops in:

- ❖ Support for participation in CIPM MRA
- ❖ Strategy and performance management
- ❖ Mass measurement
- ❖ Electrical measurement
- ❖ Training attachments in chemical measurement

**MEDEA – Metrology: Enabling Developing Economies within Asia*



Korean "Global Metrology Academy":

<http://gma.kriss.re.kr/jsp/program.jsp>

Training courses in:

- ❖ Metrology in General
- ❖ Flow Measurement and Calibration
- ❖ Ionizing Radiation
- ❖ Mass and Related Quantities
- ❖ Length and Dimensional Measurement
- ❖ Thermometry and Humidity



Capacity Building & Knowledge Transfer (CBKT) Programme

- ❖ NIMT, Thailand hosted the APMP DEC Leadership Training 2017 in December 2017
- ❖ 2016 and 2017 BIPM's CBKT workshops to assist NMIs' participation in CIPM MRA.

APMP's APEC and SRB Linkages

- ❖ Feb and Aug 2017: Attendance at meetings of APEC Sub-Committee on Standards and Conformance (SCSC) and Specialist Regional Bodies (SRBs)* Forum

**APEC SRBs: APLAC, APLMF, APMP, PAC, and PASC*

- ❖ Oct 2017: APEC-funded Food Safety Workshop, China
- ❖ APMP continues to represent SRBs in APEC's Food Safety Cooperation Forum's Partnership Training Institute Network (FSCF PTIN)
- ❖ Ongoing cooperation with APLMF re: capacity building
- ❖ Nov 2017: APMP-APLAC Joint PT WG meeting – Organisation of joint food safety PT programs for 2017-18, development of PTs in physical metrology
- ❖ Feb and 2018: Attendance at meetings of APEC Sub-Committee on Standards and Conformance (SCSC) and Specialist Regional Bodies (SRBs)* Forum



APMP Mid-Year Meetings 2018



**Hong Kong, China
2-6 July 2018**



World Metrology Day Poster

- ❖ Five NMIs raised hands to volunteer to design a poster (chronological order)

- ❖ SCL, Hong Kong China
- ❖ NMIJ, Japan
- ❖ NMCI , Iran
- ❖ NMIA, Australia
- ❖ NIM, China

❖ Schedule

- ❖ 11 May: submit design
- ❖ 18 May: check if the design satisfies the criteria presented by BIPM/OIML
- ❖ 1 June: poll
- ❖ 20 June: 2nd poll (if necessary, until one poster receives majority)
- ❖ 3 July: Midyear meeting





Thank You

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