



CCAUV/17-44

# **SIM MWG-9 REPORT TO THE 11<sup>th</sup> CCAUV MEETING**

**BIPM**  
**September 2017**

**SIM MWG-9 Chair – Dr. Gustavo P. Ripper**

# SIM MWG-9

- The MWG-9 is responsible for all activities related to Acoustics, Ultrasound and Vibration Metrology within the Interamerican Metrology System (SIM).
- Dr. Gustavo Ripper is chair since October 2015.
- Currently, SIM has 9 NMIs with interest in AUV.
- Five already have CMCs published in the Appendix C of the MRA
  - Canada, USA, Mexico, Brazil and Argentina
- Four are full members of the CCAUV
  - Canada, USA, Mexico and Brazil

# Inter-regional review of CMCs

- SIM MWG-9 has increased considerably its level of participation
- All CMCs posted for interregional review since Sept/2015 were analyzed by SIM.

## CMCs reviewed and approved by SIM after revision:

- AFRIMETS.AUV.4.2016
- AFRIMETS.AUV.5.2017
- APMP.AUV.12.2016
- APMP.AUV.13.2016
- COOMET.AUV.8.2017

# Technical cooperation activities:

- Cooperative activities have been developed within SIM members to disseminate technical knowledge and exchange experiences. Some examples:

## 2016

- Informal bilateral comparisons between INTI and INMETRO on calibration of pistonphones and LS1P microphones in pressure field

## 2017

- Technical visit and training of one technician from INMETRO at CENAM.
- Informal comparison between INMETRO and CENAM on low-frequency accelerometer calibration from 0,1 Hz up to 80 Hz.
- Informal comparison between NIST and INMETRO on primary interferometric accelerometer calibration from 10 Hz up to 20 kHz.

# Participation of SIM members in interlaboratory comparisons

## Comparisons concluded:

- CCAUV.V-K3 - INMETRO, CENAM (Metrologia, 2017, **54**, Tech. Suppl. 09001)
- CCAUV.U-K3.1 – INMETRO (Metrologia, 2016, **53**, Tech. Suppl. 09002)
- CCAUV.U-K4 – INMETRO (Metrologia, 2016, **53**, Tech. Suppl. 09004)
- AFRIMETS.AUV.A-S1 – INMETRO (Metrologia, 2016, **53**, Tech. Suppl. 09001)

## Comparisons in progress:

- CCAUV.V-K4 - INMETRO, CENAM
- CCAUV.V-K5 – NIST, INMETRO, CENAM
- EURAMET.AUV.A-S2 - INMETRO
- CCAUV.W-K2 - INMETRO

# Update of CMCs

## SIM.AUV.3.2016

- CMC submitted by NRC/Canada
  - Posted for interregional review
  - Approved and published in the BIPM KCDB on 24<sup>th</sup> July 2017.
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- A proposal of update from CENAM/Mexico is currently being discussed at intraregional level.

# Currently published CMCs

## Reinstatement of CMCs from CENAM

- 16 vibration services from CENAM that were reinstated on 5<sup>th</sup> January 2017 after the approval of their QMS by the SIM Quality System Task Force (QSTF).

Table 1 – Number of CMCs (25<sup>th</sup> August 2017)

Country	AUV			
	A	W	V	Total
Argentina	5		4	9
Brazil	57		31	88
Canada	20	3	9	32
Mexico	23	1	16	40
United States	15	1	16	32

# Members of SIM MWG-9

<b>INSTITUTION</b>	<b>Country</b>	<b>REPRESENTATIVE</b>
<b>INMETRO</b> <sup>1,2</sup>	Brazil	Gustavo Palmeira Ripper
<b>NIST</b> <sup>1,2</sup>	USA	Michael Gaitan
<b>NRC</b> <sup>1,2</sup>	Canada	Lixue Wu
<b>CENAM</b> <sup>1,2</sup>	Mexico	Guillermo Silva Pineda
<b>INTI</b> <sup>1</sup>	Argentina	Federico Serrano
<b>INACAL</b>	Peru	Henry Diaz / Luis Palma
<b>LACOMET</b>	Costa Rica	Adrian Solano Mena
<b>Instituto Nacional de Metrología - Colombia</b>	Colombia	Nelson Bahámon Cortés
<b>IBMETRO</b>	Bolivia	Luddy Pilar Guarachi

1 – Have CMCs in Appendix C

2 – Member of CCAUV



# Actions to increase the participation of SIM countries in AUV metrology activities

- 4 countries interested in activities related to AUV do not have CMCs yet

## SIM needs to:

- develop joint activities in the near future to increase the level of technical exchange and
- provide technical support to the newcomers obtain their first CMCs in the field

Thank you!