

# CARIMET REPORT



Presented by Robert Medford



SIM General Assembly  
November 14 - 18, 2016  
Uruguay





- Legislation
- Training
- Promotion of Metrology
- Facilities & Equipment
- New Services
- PTs and Inter-comparisons
- Other Activities



CARIMET Member	Legislation Activities
<b>Antigua &amp; Barbuda</b>	Regulations for the Metrology Act completed. Regulations have been submitted to Minister of Justice for vetting.
<b>Bahamas</b>	Weights and Measure Act 2006 Amendment being currently revised
<b>Guyana</b>	Development of a new Metrology Act and Regulations and the revision of the GNBS Act of 1984. completed and awaiting submission to Parliament
<b>St. Lucia</b>	Metrology (System of Units) Order enacted for the Mapping, Landing Surveys & Titles sub-sector of Central Government (In force from January 31, 2016).
<b>Suriname</b>	Metrology Act is being conceived by a metrology commission
<b>Trinidad &amp; Tobago</b>	The Metrology Act proclaimed and the Regulations were Approved. Verification services began on 1 <sup>st</sup> June, 2016



CARIMET Member	Legislation Activities
<b>Dominican Republic</b>	RTM Approval of Model of Measurement Instruments
<b>Barbados</b>	A draft Cabinet Paper for comprehensive metrology law has been prepared
<b>Haiti</b>	Metrology Law proposal being reviewed
<b>Jamaica</b>	Metrology Act is being drafted (Awaiting input from stakeholders)



Activity	Participating Members
NIST Fundamentals of Metrology, 4 – 8 April, 2016, USA	<b>Antigua &amp; Barbuda, Bahamas, St. Lucia</b>
CARIMET Capacity Building Programme – Thermometry Module 2, 23 April – 06 May, 2016 – BSJ, Kingston Jamaica	<b>Antigua &amp; Barbuda, Dominican Republic</b>
CARIMET Capacity Building Programme – Thermometry Module 3, 29 August – 09 September – INACAL, Lima, Peru	<b>Antigua &amp; Barbuda, Dominican Republic</b>
<p>NIST-SIM Temperature and Uncertainty Analysis 18-22 April, 2016.</p> <p>NIST-SIM Dimensional Metrology Hands on Workshop 10-14 October, 2016.</p> <p>Chemical Metrology Summer School 10-23 July 2016, Antwerpen, Belgium.</p> <p>Attachment at INMETRO, Brazil – Pressure</p>	<b>Trinidad &amp; Tobago</b>



Activity	Participating Members
<p>Metrology Training on calibration, verification of fuel dispensers, scales, weighbridges and thermometers (Trinidad &amp; Tobago).</p> <p>Laboratory Quality Management System based on ISO/ IEC 17025 (India)</p>	<p><b>Suriname</b></p>
<p>Mass metrology training through Caribbean Capacity Building in Metrology Programme at the TTBS, in Trinidad &amp; Tobago, in December 2015.</p>	<p><b>St. Lucia, Dominican Republic</b></p>
<p>CABUREK Metrology in Health Workshop in Mexico from April 19-21, 2016.</p> <p>CROSQ/CARIMET Mass Metrology internship at INACAL, Peru from August 15-26, 2016.</p> <p>CABUREK Metrology in Health Workshop at INACAL, Peru from September 12-16, 2016.</p>	<p><b>Guyana, St. Lucia</b></p>



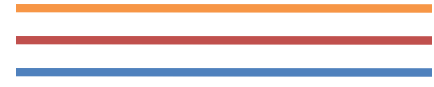
Activity	Participating Members
Absolute Gravimeter Workshop and observer at North American Comparison of Absolute Gravimeters	<b>St. Lucia</b>
CARIMET- Capacity Building Programme: Temperature Metrology (second and third modules) Internships at: BSJ and CENAM Mass Metrology (Third Module) Internship: CENAM	<b>Guyana</b>
Dimensional Metrology (NIST) Document Control & Record Keeping Webinar (NIST) Legal Metrology Training (Bahamas) Legal Metrology/Strengthening and Capacity Training (Bahamas)	<b>Bahamas</b>



Activity	Participating Members
<p>Legal Metrology Training PROFECO, Mexico</p> <p>Training in Verification of Fuel Dispensers Belize (trainer provided by PROFECO)</p>	<p><b>Belize</b></p>
<p>Training attachment at CENAM under the SIM professional Development Committee and the OAS.</p> <p>Training in Temperature Metrology under the NIST guest researcher program</p> <p>Temperature Metrology training (CENAM)</p> <p>Dimensional Metrology training (NIST)</p>	<p><b>Jamaica</b></p>
<p>CARIMET Capacity Building Programme in Metrology – Thermometry</p>	<p><b>Haiti</b></p>



# Promotion of Metrology



Activity	Participating Members
<p>Verification of Fuel Dispensers Preliminary Meeting, 12 May, 2016</p> <p>Legal Metrology Awareness Seminar, 19 May, 2016</p>	<p><b>Antigua &amp; Barbuda</b></p>
<p>Several sensitization activities in the form of school lectures, mini exhibitions, television and radio programmes, meetings, etc.</p> <p>World Metrology Day celebration activities</p>	<p><b>Barbados, Grenada, Guyana, St. Lucia, St. Vincent &amp; The Grenadines, Suriname, Trinidad &amp; Tobago</b></p>
<p>Pocket version of the SI Brochure was distributed to students</p> <p>WMD 2016 activity featured in the July 2016 edition of NCSLI's Metrologist magazine.</p>	<p><b>St. Lucia</b></p>
<p>Metrology video publication ( Calibration awareness)</p>	<p><b>St. Vincent &amp; The Grenadines</b></p>
<p>The Basic Metrology Course (Annually)</p> <p>Workshops for Weighbridge and Scale/Balance operators.</p>	<p><b>Trinidad &amp; Tobago</b></p>

# Promotion of Metrology



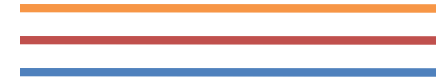
Activity	Participating Members
Training in basic metrology (mass). Training in International System of Units and traceability (mass)	<b>Dominican Republic</b>
Training in electrical meter verification provided to power company (GRENLEC)	<b>Grenada</b>
MOUs established with educational institutions - involves the training and development of educators in Jamaica in an effort to promote Metrology Nationally (PTB CABUREK project)	<b>Jamaica</b>

# Facilities & Equipment



Members	Facilities & Equipment
<b>Antigua &amp; Barbuda</b>	Construction of Temperature Lab Purchase of 60 kg Mass Comparator, 30 kg Balance Purchase of 2 ton lifting crane
<b>Bahamas</b>	Safety equipment for verification of fuel dispensers Awaiting four 1 gallon test measures from CROSQ
<b>Guyana</b>	Two (2) Mettler Toledo Balances to conduct the checking of net contents of prepackage goods One (1) portable Gold Tester One (1) Canker Truck with Hoist to transport Test Masses One (1) 4x4 Pick up to conduct field activities
<b>Grenada</b>	One analytical balance Atomic Absorption spectrometer (AA) Equipment for chemical & microbiological analysis Reference thermometer New Analytical Laboratory area established

# Facilities & Equipment



Members	Facilities & Equipment
<b>St. Lucia</b>	<p>Two (2) reference electrical energy meters which have pattern approval to the new OIML R46 Recommendations and the European standards.</p> <p>New National Diagnostic Laboratory under construction with space allocated for a Metrology Laboratory.</p> <p>Dry Block Calibrator for calibration of thermometers (range 33 °C to 700 °C )</p>
<b>Trinidad &amp; Tobago</b>	<p>Hand held Humidity Meter</p> <p>Water purification system</p> <p>Flange Mount Transducers</p> <p>Standard Platinum Resistance Thermometer</p> <p>Triple Point of Water Cell</p>
<b>Belize</b>	<p>Construction of the Bureau's Metrology Laboratory completed</p>

# Facilities & Equipment



Members	Facilities & Equipment
<b>Barbados</b>	Scanning thermometer with probe Load cell calibrator
<b>Haiti</b>	Extension of the building of the Laboratories to accommodate 2 more Labs Mass Comparator Time and Frequency System
<b>Jamaica</b>	Refurbishing of the Mass and Dimensional laboratories
<b>Dominican Republic</b>	High Accuracy Three-phase Comparator for Verification of Reference Standard Meters Automatic Water Distiller System New building for laboratories electricity, temperature and mass. Comparators mass and a full set of weights class E2

# Services

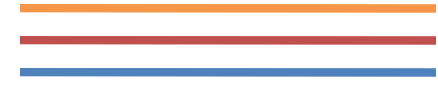


Services	Members
Verification of Fuel Dispensers (planned) Thermometry calibration and verification services (planned)	<b>Antigua &amp; Barbuda</b>
Metrology services (planned) Weighing instrument verification service (offered)	<b>Bahamas</b>
New analytical services (planned) Calibration of thermometers (planned)	<b>Grenada</b>
Calibration of thermometers (planned)	<b>St. Lucia</b>
Calibration verification of scales, weight bridges (planned) calibration of thermometers (planned) verification of fuel dispensers (planned)	<b>Suriname</b>
Verifications (legal metrology) offered	<b>Trinidad &amp; Tobago</b>
Calibration services to be provided in Mass, Volume and Temperature.	<b>Belize</b>



Services	Members
Calibration of volumetric Pattern (20 L) (offered) NTP time dissemination (planned) Stop watch calibrations (planned)	<b>Dominican Republic</b>
Metrology services in the areas of density, humidity and accredited balance calibration (planned)	<b>Jamaica</b>
Verification of LPG facilities (planned) Verification of LPG facilities (planned) Calibration of Mass Instruments (offered) Calibration of Volume Instruments (planned)	<b>Haiti</b>
Calibration of compression testing equipment(offered) Calibration of temperature equipment(planned)	<b>Barbados</b>

# PTs & Inter-comparisons



Activity	Participating Members
CARIMET Volume Inter-comparison (20L) (On-going)	<b>Barbados, Grenada, Guyana, St. Lucia, St. Kitts &amp; Nevis, St. Vincent &amp; The Grenadines, Trinidad &amp; Tobago, Jamaica (Pilot)</b>
PT in alcohol (WISPA) PT in pH (water) (LGC) PT in Moisture Content analysis (LGC) PT in pH & Brix (Juice & Beverages) (LGC)	<b>Grenada</b>
Medical Laboratory PTs	<b>Antigua &amp; Barbuda (Facilitated by ABBS)</b>
Community Andine Intercomparison of temperature.  Comparison in mass between SIM NMIS - Jamaica, México, Trinidad and Tobago	<b>Dominican Republic</b>



# PTs & Inter-comparisons



Activity	Participating Members
<p>TTBS participated in a mass inter-comparison between CENAM, BSJ and INDOCAL. (11 - 22 April, 2016.)</p> <p>TTBS participated in a Proficiency Test for Trace Metals in Drinking Water Technical Protocol (NRC 20151).</p> <p>SIM.QM-S7 Supplementary Comparison for Trace Metals in Drinking Water Technical Protocol PT on drinking water was conducted. (May 2016).</p>	<p><b>Trinidad &amp; Tobago</b></p>
<p>Pilot for Mass Inter comparison involving (CENAM, TTBS, INDOCAL)</p> <p>Bilateral <i>comparison in Mass</i> with ZMK in Germany</p> <p>Bilateral Volume comparison with NIST. (20 L)</p>	<p><b>Jamaica</b></p>



- Participation in CABUREK activities
  - NMI Strategic Planning
  - Development of a Regional Training Offer in Metrology
  - Metrology and Health
- Technical Report prepared for our Ministry of Transport on the assessment, pattern evaluation, verification or calibration of a particular model of laser speed gun.
- QSTF Meeting
- SIM Chemical Metrology Workshop, Costa Rica
- SIM MGW7 – Mass and Related Quantities, Peru

- Participation in ISO 17025, ISO 17020, ISO 17065 training workshops
- Haiti
  - Visit of 2 technicians at the INDOCAL Time and Frequency Lab in the Dominican Republic
  - Visit of 2 Technicians at the CENAM Labs
  - Visit of 2 Technicians at the LATU Labs
  - Visit of 2 Technicians at Medical labs in Queretaro
- Jamaica
  - The Temperature laboratory hosted three (3) officers from Regional NMIs under the Capacity building project.
  - Mass Metrology laboratory was assessed for re accreditation and was recommended.
  - The Volume laboratory was also assessed for accreditation and was also recommended pending closure NCs.

# Achievements



- Presentation on the development of legal metrology in Saint Lucia, by Anselm Gittens, to the 51<sup>st</sup> Meeting of the International Committee of Legal Metrology (CIML) in Strasbourg, France.
- Temperature Laboratory of TTBS assessed by UKAS (awaiting final outcome)
- Electrical measurements laboratory obtained updated ISO 17025 accreditation – Dominican Republic
- GDBS Analytical Laboratory received ISO 17025 accreditation (first laboratory in Grenada to be ISO 17025 accredited – Chemical Testing)
- TTBS has developed and delivered course entitled, Metrology and Regulatory Standards, for the newly established BSc. Biomedical Technology programme at the University of the West Indies, St. Augustine.



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**Thank You**



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