

SIM Report to COOMET COMMITTEE MEETING



Presenter: Claudia Santo-
SIM Executive Secretary
Date: 23rd May 2023

SIM GA 2022- Saint Lucia

7-11, November 2022





ANNUAL GENERAL ASSEMBLY & SIM WEEK





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EXON COMMUNICATIONS

SIM membership

	Region	Country	NMI/Active member	DI/ Associate member
1	NORAMET	Canada	NRC	TCC
2		Mexico	CENAM	INEC, ININ
3		USA	NIST	NUWC-USRD
4	CARIMET	Antigua and Barbuda	ABBS	
5		Bahamas	BBSQ	
6		Barbados	BNSI	
7		Dominica	DBS	
8		Dominican Republic	INDOCAL	
9		Grenada	GDBS	
10		Guyana	GNBS	
11		Haiti	BHN	
12		Jamaica	BSI	
13		St. Lucia	SLBS	
14		St. Kitts and Nevis	SKNBS	
15		St. Vincent and Grenadines	SVGBS	
16		Trinidad and Tobago	TTBS	
17	CAMET	Belize	BBS	
18		Costa Rica	LCM	LAMETRO-ICE, ICE LMVA, RECOPE, LanammeUCR
19		El Salvador	CIM	
20		Guatemala	CENAME	
21		Honduras	CEHM	
22		Nicaragua	LANAMET	
23		Panamá	CENAMEP	
24	ANDIMET	Bolivia	IBMETRO	
25		Colombia	INM	
26		Ecuador	INEN	
27		Peru	INACAL	
28		Venezuela	SENCAMER	
29	SURAMET	Argentina	INTI	CNEA
30		Brazil	INMETRO	LNMRI/IRD, ON
31		Chile	INN	
32		Paraguay	INTN	
33		Uruguay	LATU	UTE

Membership:

- 33 active members (NMIs)
- 13 associate members (Dis)
- 3 affiliate members (Organizations QI: IAAC, COPANT and CARICOM)

Some GA resolutions:

- CARICOM has been admitted as a new affiliate member during las GA
- GA approved SIM involvement in BIPM e-learning platform



SIGNATURE e-learning platform agreement

SIM GA: elections 2022 - New Steering Council Members



President
Javier Arias
CENAMEP
Panama



Past President
Claire Saundry
NIST USA



TC Chair
Lucas Di Lillo
INTI Argentina



QSTF Chair
Sally Bruce
NIST USA



PDC Rodrigo
Costa-Felix
INMETRO Brazil



ANDIMET
Jose Dajes
INACAL Peru



CAMET
Fernando Andrés
LCM Costa Rica



CARIMET
Erica Caruth
TTBS Trinidad
and Tobago



NORAMET
James Gerald
Kushmerick Jr
USA



SURAMET
Gregory Kyriazys
INMETRO- Brazil

$$F = G \frac{m_1 m_2}{d^2}$$

TECHNICAL
ACTIVITIES

$$i\hbar \frac{\partial}{\partial t} \psi = \hat{H} \psi$$

$$\phi(x) = \frac{1}{\sqrt{2\pi\sigma}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

$$F - E + V = 2$$

$$E = mc^2$$

$$dS \geq 0$$

$$\frac{\partial^2 u}{\partial t^2} = c^2 \frac{\partial^2 u}{\partial x^2}$$

$$\frac{df}{dt} = \lim_{h \rightarrow 0} \frac{f(t+h) - f(t)}{h}$$

SIM Technical Committees (Metrology Working Groups)

- TC Chair: Lucas Di Lillo (INTI)
- Deputy Chair: Marina Gertsvolf(NRC)

<p>MWG 1: Electricity and Magnetism Chair: Felipe Hernández / CENAM / México fhernand@cenam.mx</p>	<p>MWG 2: Photometry and Radiometry Chair: Thiago Menegotto / INMETRO / Brazil tmenegotto@inmetro.gov.br Vice Chair: Juan Pablo Bábaro / INTI / Argentina jbabaro@inti.gob.ar</p>
<p>MWG 3: Thermometry Chair: Ciro Sanchez / INM / Colombia csanchez@inm.gov.co Vice Chair: Andrea Peruzzi / NRC / Canada andrea.peruzzi@nrc-cnrc.gc.ca</p>	<p>MWG 4: Length Chair: Karina Bastida / INTI / Argentina bastida@inti.gob.ar Vice Chair: Brian Eves / NRC / Canada brian.eves@nrc-cnrc.gc.ca</p>
<p>MWG 5: Time and Frequency Chair: Diego Luna / INTI / Argentina luna@inti.gob.ar Vice Chair: Liz Hernández Forero / INM / Colombia lhernandez@inm.gov.co</p>	<p>MWG 6: Ionizing Radiation and Radioactivity Chair: Raphael Galea / NRC / Canada raphael.galea@nrc-cnrc.gc.ca Vice Chair: Lizbeth Laureano-Pérez / NIST / USA lizbeth.laureano-perez@nist.gov</p>
<p>MWG 7: Mass & Related Quantities Chair: Aldo Quiroga / INACAL / Peru aquiroga@inacal@gob.pe</p>	<p>MWG 8: Chemistry and Biology Chair: Melina Perez / CENAM / Mexico meperez@cenam.mx Vice Chair: Brian Calderon / LACOMET / Costa Rica bcalderon@lcm.go.cr</p>
<p>MWG 9: Acoustics, Ultrasound and Vibration Chair: Akobuije Chijioke / NIST / USA akobuije.chijioke@nist.gov Vice Chair: Andres Esteban Perez Matsumoto eperez@cenam.mx</p>	<p>MWG 10: Flow and Volume Chair: Hernán Brenta / INTI / Argentina hbrenta@inti.gob.ar Vice Chair: Abed Morales / INACAL / Peru amorales@inacal.gob.pe</p>
<p>MWG 11: Legal Metrology Chair: Pedro Pérez Vargas / SIC / Colombia pperez@sic.gov.co Vice Chair: Sandra Rodriguez Zuñiga / LACOMET / Costa Rica srodriguez@lacomet.go.cr</p>	<p>MWG 12: Quality System Chair: Elizabeth Ferreira / LATU / Uruguay eferreir@latu.org.uy</p>
<p>MWG 13: Statistics and Uncertainty Chair: Antonio Possolo / NIST / USA antonio.possolo@nist.gov</p>	<p>MWG 14: Metrology for Digital Transformation Chair: Hugo Gasca Aragón / CENAM / México hgasca@cenam.mx Vice Chair: Diego Coppa / INTI / Argentina dcoppa@inti.gob.ar</p>

Activities in SIM: CMCs

- SIM remains active in submitting CMCs in all technical areas (225 CMCs)
- Reviews continue during pandemic

Technical Field	NMIs Involved	New CMCs published between 2022-01-01 and 2023-02-23
Electricity and Magnetism	INM	34
Photometry and Radiometry	INMETRO, LAMETRO-ICE, INTI, NIST	30
Thermometry	NRC, LACOMET	2
Length	INTI, DICTUC, CENAM	8
Mass and Related Quantities	INM, INEN, ENEAR, INACAL, NRC, INTI	43
Chemistry and Biology	CENAM, LATU, INACAL, INMETRO, NRC, INTI	99
Acoustics, Ultrasound and Vibration	INMETRO, NRC, CENAM	9

Activities in SIM: Comparisons (KCDB Feb 2023)

Technical Field	Approved/ Approved for equivalence/ Approved for provisional equivalence
Electricity and Magnetism	31
Photometry and Radiometry	6
Thermometry	12
Length	15
Ionizing Radiation and Radioactivity	4
Mass and Related Quantities	50
Chemistry and Biology	9
Acoustics, Ultrasound and Vibration	44

Activities of Technical Groups

MWG 5: Time and Frequency:

- Development of travelling GNSS calibration system for UTC(k) traceability and the development of calibration protocol for SIM

MWG 6: Ionizing Radiation:

- Development of travelling reference calibration system for SIM to support of KCs in gamma radiation.
- Seconded training at BIPM

MWG 7: Mass & Related Quantities:

- Procurement of various reference masses to support KCs in SIM

MWG 8: Chemistry and Biology:

- Development of Cannabis reference materials to support KCs in SIM
- Development capabilities for measurements of Cd and Pb in Cocoa for KCs in SIM
- Capacity building in drinking water quality control

Activities of Technical Groups

MWG 9: Acoustic and Vibrations:

- Procurement of various reference equipment to support KCs in SIM

MWG 10: Flow and Volume:

- Project for developing a fundamental metrological infrastructure to support the testing of medical ventilators concluded (supported by PTB).
- The closing workshop of this projects was held in Lima, Peru on Nov 7-12, 2022, More than 25 metrologists participated

MWG 14: Digital Transformation::

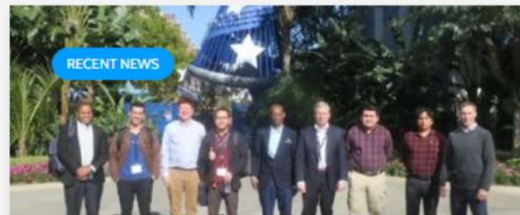
- M4DT DAY – An open access training activity that takes place every 2 months on a variety of topics related to DT in SIM (see SIM webpage to register)
- MWG 14 TC Meeting was organized in Panamá (Oct 11-13, 2022)

<https://sim-metrologia.org/>

RECENT EVENTS



**13th METROLOGY FOR
DIGITAL TRANSFORMATION...**



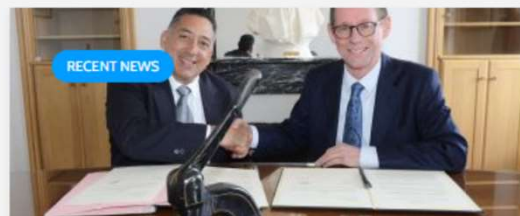
**SIM TEMPERATURE AND
HUMIDITY (MWG3) Meeting...**



**Post-Measurement Workshop
– Making an Impact on Water...**



**12th METROLOGY FOR
DIGITAL TRANSFORMATION...**



**SIM joins the BIPM e-learning
platform**

The image features a dark, blue-toned background with a complex, glowing circuit board pattern. A central, glowing green padlock is positioned slightly above the middle of the frame. Overlaid on the padlock and the circuitry is the text "SIM PROJECTS" in a white, sans-serif font.

SIM PROJECTS



NIST GRANT

- Through this Project we funded the acquisition of equipment and materials for comparisons in MWG 6, MWG 8 and MWG 9.
- Attendance of 3 SIM members to APMP organized event related to water in Malaysia in March 2023 was funded
- Meeting of MWG 3 in April 2023 together with ITS 10 Symposium in Los Angeles USA, was supported
- TC meeting during mid term SIM week in Bogota is being supported (24-25 May 2023)

PTB SUPPORT TO DT

PTB is supporting the help of an expert for MWG 14.

PTB funded a meeting of MWG 14 members on October 2022 in Panama.



IDB SIM Project “Metrology for digital transformation to support health services in LAC”

- **NEW DT SERVICES:**

Many NMIs are developing new DT services in DCC, automation and remote calibrations and digitalization of NMI's services. This is done using the CABUREK (Capacity Building using regional Exchange knowledge) methodology.

Last presentational meeting of this project was in Perú October 21-25, 2022 – to present their updates in the project.

New WGs are formed after this meeting for 3 areas: DCC, Remote Calibration & Processes.

The 5th virtual Workshop for the M4DT CABUREK project was virtually held the week of April 17, 2023.

- **RESEARCH PROJECTS:**

4 research projects were approved to be funded through this Project and have performed activities during 2022 and are planning activities for this year

- A technical Meeting in Panamá was held October 07-10, 2022 to present the updates of the THB Project (Thermo-Hydro-Barometer) which seeks to develop a low-cost THB in at least 4 NMIs of the region that could be used for through out the SIM region.
- A technical meeting was held in Córdoba, Argentina on the week of the 3rd of October to begin the exchange in the 3D DT project

IDB SIM Project “Metrology for digital transformation to support health services in LAC”

- 3 Internships are planned for this year related to "Metrological evaluation of lung ultrasound using virtual vector machine for diagnosis of acute respiratory distress syndrome (ME-LUS-VVM-DARDS)" project.
- The project “Open platform for time and frequency measurements” is in the phase of buying the equipment for the project.

- **AWARENESS EVENTS IN DT:**

Awareness events are planned this year in 3 different SIM subregions:

- ANDIMET: INM Colombia : 23rd May 2023
- CAMET: CIM – El Salvador : August 2023
- SURAMET: INTN – Paraguay: November 2023 (together with SIM GA)

SIM/COPANT/IAAC/OAS-PTB “Quality Infrastructure for the Circular Economy”:

National projects involving quality infrastructure applications for circular economy related to plastics, construction, and agri-food.

Last presential Workshop was held on 17 & 22 October 2022 – QI4CE Workshop in Ecuador: Almost 50 participants for the Standardization, Accreditation, Metrology & Circular Economy Industry met in Otavalo, Ecuador

Last meeting for this project was virtual and held at the week of the 27th of March 2023.



SIM-NCSLI Project:

- The Early Career Metrologist Award (for metrologists under 5 years) was successfully accomplished in 2022 and has been launched for 2023
- This project that started during the pandemic aims to have young metrologists write about scientific or industrial papers.
- In 2022 we were able to select 4 papers of young metrologists among the 5 SIM Sub Regions and, together with other 6 metrologists (winners from 2020 & 2021 contests), send them to present their projects at the NCSLI annual Conference.

NEXT EVENTS





23 MAY
All Day

OPEN EVENT SIM WEEK: AWARENESS EVENT DIGITAL TRANSFORMATION

View this email in your browser El Sistema Interamericano de ...

[VIEW DETAIL](#)



23 - 26 MAY
9:00 am - 5:00 pm

SIM WEEK - INM, Colombia

[VIEW DETAIL](#)



6 - 10 NOVEMBER

Día Mundial de la Metrología



Mediciones que respaldan el sistema alimentario mundial

Bureau
International des
Poids et
Mesures



20 de mayo 2023
www.worldmetrologyday.org

24 MAY
All Day

OPEN EVENTS SIM WEEK: CELEBRATION OF WORLD METROLOGY DAY ●

View this email in your browser *Las agendas sujetas a ...

[VIEW DETAIL](#)



ANUAL WEEK 2023

DIGITAL TRANSFORMATION

Dear Member,

SIM is pleased to invite you to its
2023 Meeting Week

MAY 22nd | Bogotá D.C.
26th | Colombia

<https://sim-metrologia.org>

SIM WEEK INM – COLOMBIA 23-26 May 2023

	Monday (22 May)	Tuesday (23 May)	Wednesday (24 May)	Thursday (25 May)	Friday (26 May)
Event(s)	Travel day	Regional Awareness event- IDB Project Venue: Auditorium INM de Colombia 8:30- 17:00	INM - WMD Event Venue: Auditorium INM de Colombia 8:00 - 17:00	QSTF – Venue: Auditorium INM de Colombia 8:30 – 17:00 (Open meeting) 15 people(*)	Joint TC/QSTF meeting Venue: Auditorium INM de Colombia 9:00 – 11:00 30 people (*)
		SIM Council meeting - 14:00 - 18:00 (Closed meeting- participation for members on request) 15 people	SIM Council meeting - 14:00 - 18:00 (Closed meeting- participation for members on request) 15 people	TC meeting Venue: Roberto Henao Room. INM de Colombia 9:00 – 17:00 (Closed to TC members meeting) 15 people(*)	QSTF – Venue: Auditorium INM de Colombia 11:00– 18:00 15 people (*)

(*) it is expected some paralell meetings (hybrid) with some of the WG chairs or vicechairs.

INM de Colombia Address: Avenida Carrera 50 #26-55 Int. 2

Google Location: <https://goo.gl/maps/4dtJ2iGNKythGaw46>

SIM CELEBRATION OF WMDay

- A Hybrid celebration of the WMD will take place during SIM mid term week in Colombia on the 24th of May 2023.

World Metrology Day



Bureau
International des
Poids et
Mesures



20 May 2023
www.worldmetrologyday.org

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THANK YOU!!!