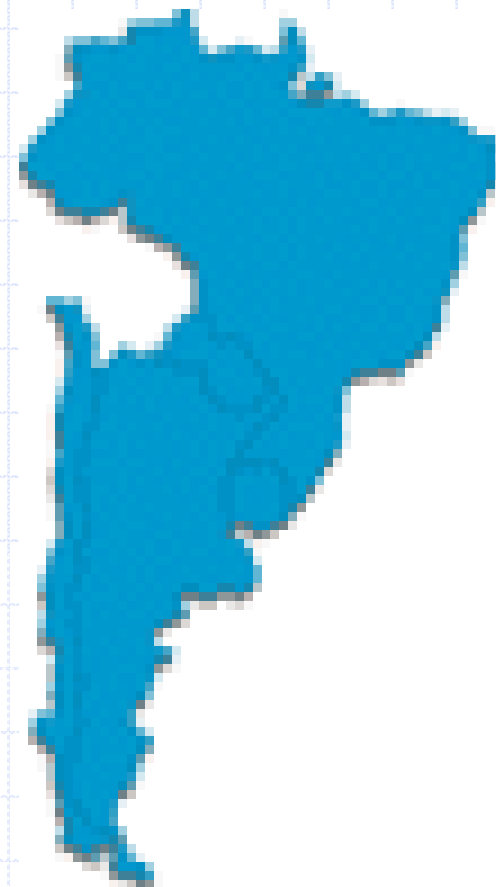


Chemical Metrology Working Group



SURAMET



Prof.: Humberto Brandi
Director DIMCI/INMETRO
November, 15-20 2015

INTI/Argentina

ACHIEVEMENTS

I. Participation in SIM groups

Beyond the SIM Presidency and Secretary, INTI people is chairing the MWGs 1 (Electricity and Magnetism), the MWG 7 (Mass and Related Quantities) and the MWG 11 (Legal Metrology). A metrologist from INTI was selected to chair the MWG 4 (Length) since 2016

II. Organization of SIM meetings and workshops

- Meeting of MWG3 (Thermometry). Córdoba, Argentina. October 2015
- Meeting of MWG11 (Legal Metrology), Panamá, April 2015
- Meeting of MWG7, Mass Sub-group, Quito, August 2015
- Workshop on Software and Hardware Assurance for Legal Metrology, Buenos Aires, October 2015. With participation of an expert from PTB
- Traceability in Solar Irradiance Measurements, with experts from NIST, CENAM and WRC, (DAVOS) June 2015

III. SIM Courses or assistances with participation of instructors from INTI

- Workshop on Radiation Thermometry, Córdoba, Argentina, October 2015.
- Course on Statistical Tools Associated to RM Production and ISO Guide 35 Requirements. Instructors from INTI, Buenos Aires, May 2015
- Course on Calibration of Weights organized by SIM MGW 7, Quito, August 2015
- Course on Quinoa Analysis, Buenos Aires, November 2015
- Course on Model approval of weighing instruments and verification of large scale balances, Panama, April 2015
- Training courses for the Metrology System of Colombia: Validation of Chromatographic tests
- Legal Metrology in Flow, Trinidad Tobago, November 2015
- Assistance to the Republic of Angola, in order to strength the national infrastructure for quality, supported by FOAR (Argentina). Two missions were carried out in 2015

IV. Participation in meetings and workshops

- F. Kornblit has participated in the CCM meeting as chair of SIM MWG7, BIPM. February 2015
- L. Di Lillo has participated in the CCEM meeting as chair of SIM MWG1, BIPM. March 2015
- Participation in the Workshop on Measurement Uncertainty, BIPM, June 2015
- Participation in the meeting of MWG13: Statistics and Uncertainty, C. Rica, February 2015
- Participation in the Metrology Meeting, INDECOPI, May 2015
- Meeting on Biodiversity and Climatic Change, subproject Quinoa, La Paz, June 2015
- Workshop on Traceability in Clinical Analysis, supported by PTB, Quito, September 2015
- Workshop on Vehicle Emissions, INMETRO, September 2015. Project on Biodiversity and Climate Change, supported by PTB
- Meeting for the Coordination of the Project: Triangular Cooperation in Gas Natural in Latin America, La Paz, Mayo 2015
- Workshop on Gas Concentration Measurements for Air Quality Monitor, September 2015, Querétaro, Mexico. Organized by CENAM, NIST and OAS
- Participation in the QSTF meetings held in November 2014 (Bogota), and in April 2015 (S. Cruz de la Sierra). Presentations of seven QMSs
- Meeting of MWG 10 (Flow and Volume), USA, April 2015
- 2 weeks Workshop on High Voltage Measurements, Montevideo, November 2014

V. Peer reviews performed to other SIM NMIs

- To INDECOPI (now INACAL) in Thermometry
- To INM in Force
- To CENAM in Management
- To IBMETRO in Management and Mass
- To ISP in Management
- To INEN in Mass

VI: Peer reviews received by INTI

- M. Zucco assessed the laboratories of Length, December 2015
- G. Ripper (INMETRO) assessed the Laboratory of Vibrations, February 2015
- D. Licea (CENAM) assessed the Laboratory of Thermometry, August 2015

VII. Stays at INTI

- J. Lux, from CENAME (Guatemala). 3 months stays in different laboratories
- O. Fallas Cordero form ICE (Costa Rica). 2 weeks stays at the Electronics Laboratory, supported by FOAR (Argentina)
- L. Pereira, INACAL, 2 weeks in the Laboratory of Electric Meters
- J. Parra, INTN, 2 weeks for training in High Value Resistors
- M. Sachira, INM 2 weeks in the Laboratory of ac-dc transference
- P. Oliveira, INMETRO 2 weeks in the Laboratory of High Voltage

VIII. Stays of INTI people in other NMIs

- Stay of J. Garro at CENAM for Greenhouse Effect Gas Measurements, September 2015
- 2 months stay at the Flow laboratory, NIST

IX. Projects with other NMIs

- Participation in the project: Development of a High Frequency Wattmeter (INTI-UTE-INMETRO). 2 working meetings were carried out: in Bogotá, November 2014, and at INMETRO, April 2015
- Participation in the PTB project on Biodiversity and Climate Change:

Sub-project on Quinoa Reference Material Production, coordinated by INTI

Sub-project on UV Radiation, coordinated by INTI

Sub-project on Greenhouse Effect, participation of INTI

Sub-project on Vehicle Emission Effect, participation of INTI



Inmetro/Brasil



1- ACHIEVEMENTS (highlights)

- Inmetro offered a capacity building event for 5 representatives from Argentina, Peru, Bolivia, Colombia and Ecuador, from September 14th to 27th, in the area of preparation and certification of primary reference materials of vehicle gases. This action counted on the support from PTB/Germany;
- Support to the Peer Review process of Cenamep / Panama in the areas of energy and quality system management; and Bolivia in the field of electrochemistry;
- Participation at the planning seminar of the cooperation project PTB/Mercosur "Support to conformity assessment ad techiques for testing and measurements for the identification of home appliances with energy efficiency labels". Held in Montevideu, from September 23rd to 25th, with the support from PTB/Germany;
- Capacity Building for two representatives from "Trinidad and Tobago Bureau of Standards" (TTBS), between June 15th ad 26th in the areas of laboratory glasses; measuremet of volumetric capacity, calibration of glass densimeters and calibration of digital densimeters;
- New infrastructure for the area of time and frequency at Inmetro through a cooperation with the University of São Paulo in São Carlos: transfer of a Cesium Beam Primary Frequency Standard to Inmetro;
- Prof. Humberto Brandi remains as a CIPM member;
- Inmetro is chairing the MWG 8 (Metrology in Chemistry);
- Participation in the CCQM meetings/Plenary. May, 2015;
- Around 140 publications in the area of metrology.



2- Projects with other NMIs

- Participation in the project - Cooperación Triangular Metrología en Gas Natural en América Latina (2ª fase). PTB funded
- Involved with the project coordinated by INACAL - Quality assurance of measurements for Primary Standards Gaseous for Air Quality - Metrology in Chemistry for Vehicle Emissions. PTB funded
- Take part on a proposal of CENAM (not yet approved): "Demand Workshop of a Quality Infrastructure for Traceable Measurements of Green House Gases". PTB funded
- Technical support to PTB in a project for RUM properties measurements in Carimet.
- Werickson Fortunato. Inmetro-NIST cooperation in chemometrics
- Gabriel Sarmanho. 2016 start a cooperation with NIST (Antonio Possolo) in the field of uncertainty estimation.
- Dr Garrido was in a secondment at BIPM Chemistry Section. 4 months



3- Next steps



8th Brazilian Metrology Congress
XI International Congress of Electrical Metrology
II Brazilian Congress of Metrology applied to Ionizing Radiations
Brazilian Congress on Optical Metrology

November 29th to December 02nd

<http://www.metrologia2015.org.br/metrologia2015/>



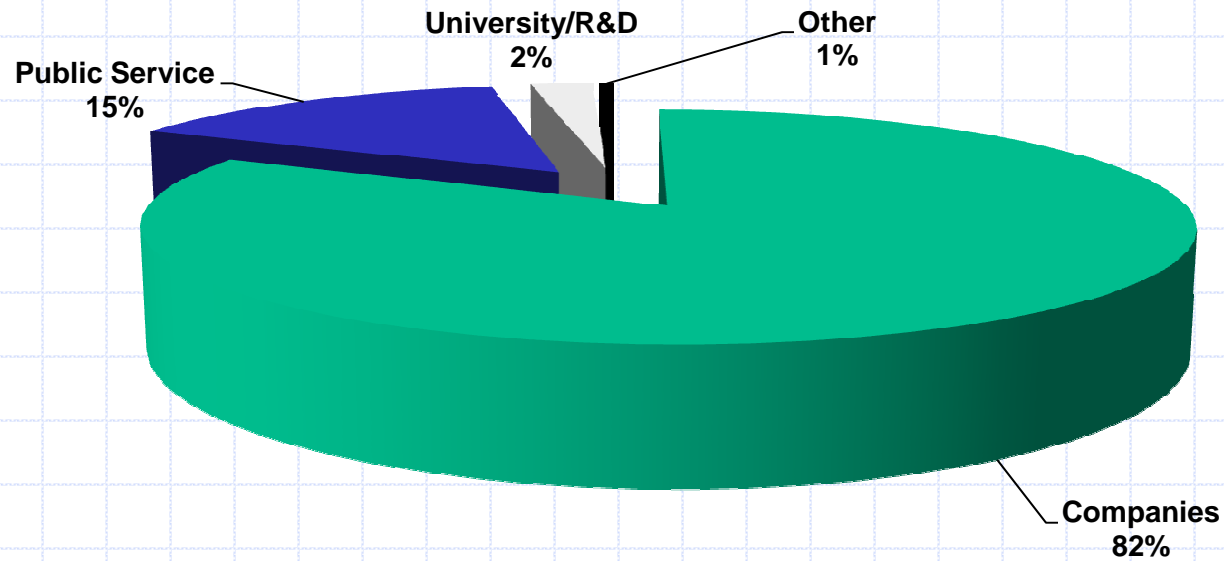
INN-Chile

- In 2014, two Designated Institutes have started process for improve their measurements capabilities. DI of temperature (CESMEC S.A.) is working in develop their own fixed points and DI of length (DICTUC S.A.) acquired an Universal Measurement Machine through which will can calibrate block gauges until 1000 mm;
- DI of electricity (Universidad de Concepción) besides to re obtain accreditation under ISO/IEC 17025, presents to DAkkS an application for accreditation for new measurements capabilities (measurements of power and energy). This achievement is the first step of a Plan of U. de Concepción for to publish their CMC in KCDB the next year;
- INN appointed a new representative in the QSTF, Mr. Roberto Morales, Chief of DI - lengt (DICTUC S.A) because Mr. Garcia has assumed a new position in CESMEC S.A;
- In 2014, ENAER was accredited by DAkkS under ISO/ IEC 17025 for Humidity (Devices for relative and absolute humidity). Completed this requirement, INN will recommend to Ministry of Economy of Chile nominated as Designated Institute in Humidity;



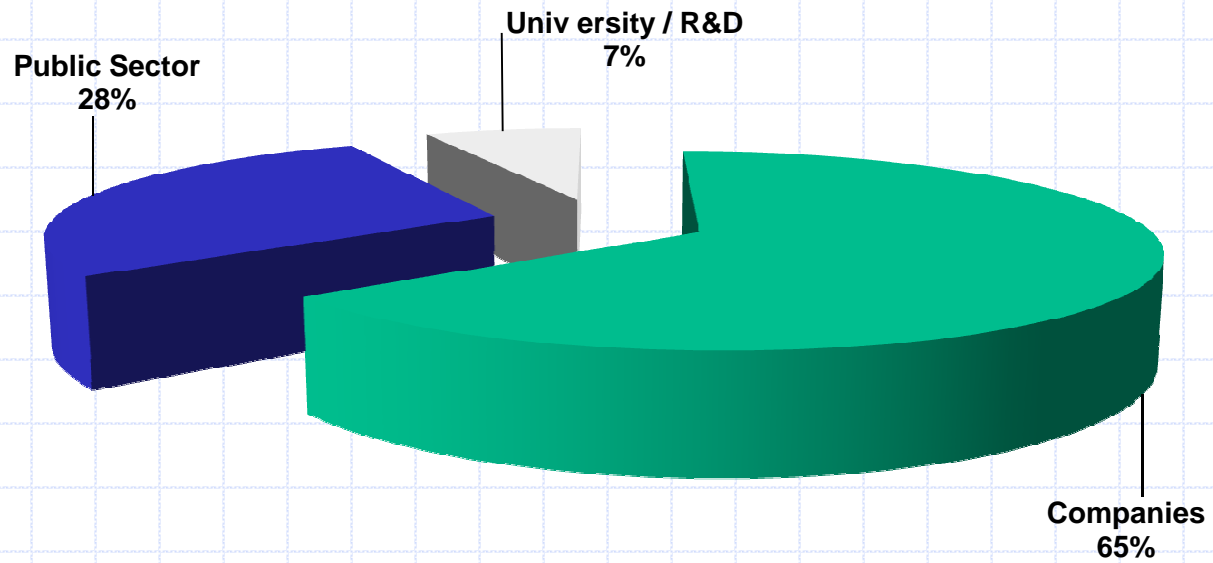
- Since 2014, Comisión Chilena de Energía Nuclear (CCHEN) is part of RNM as Candidate Institute. If they comply requirements established in Bylaws of RNM, INN could be recommend to nominate them as a Designated Institute.

Calibration Services 2015 Red Nacional de Metrología Chile





Proficiency Testing Participant 2014 Red Nacional de Metrología





INTN- PARAGUAY

ACTIVIDAD	PERIODO	MAGNITUD	CANTIDAD DE TECNICOS	INM	RESULTADOS
Inversión en el mejoramiento de la Infraestructura de los laboratorios metrológicos en conformidad a normativas internacionales.	Dic. 2014 / Mayo 2015	Longitud/ Presión	---	INTN	Mejora e implementación de nuevos servicios dando soporte a los sectores industrial, académico y público, con mediciones confiables elevando así la competitividad del país
Finalización de las obras de readecuación edilicia para el Laboratorio de Grandes volúmenes y del puesto de verificación de camiones cisternas, con un nuevo ala para verificaciones en paralelo de camiones y la ejecución de nuevos servicios de prueba hidrostática y/o de estanqueidad,.	Dic. 2014 /Junio 2015	Grandes Volúmenes	---	INTN	Nuevos servicios ofrecidos. La infraestructura reducirá el tiempo de respuesta en las calibraciones ofrecidas al usuario. Actividad que ayudará a determinar el tiempo de vida útil de los tanques cisternas que son habilitados en el INTN para flotas que circulan en el territorio nacional e internacional
"1er. Concurso de Ciencia y Tecnología INTN-2015", dirigido a estudiantes de colegios técnicos del país, proyectos de desarrollo vinculados a la tecnología de luz, energías renovables o proyectos energéticos, basados en la luz, como parte de las conmemoraciones del Día Mundial de la Metrología y su lema METROLOGÍA, LAS MEDICIONES Y LA LUZ.	Mayo 2015 / Setiembre 2015	Electricidad	---	INTN	Excelente participación por parte de los colegios con 11 proyectos presentados.

Adquisición de equipos en el Laboratorio de Temperatura tales como un Juego de Sensores Inalámbricos para caracterización de Medios Isotermos y un Cuerpo Negro Patrón.	Mayo 2015	Temperatura	---	INTN	Referencia que permitirá la puesta en marcha del Servicio de Calibración de Termómetros Infrarrojos, servicio muy demandado por las empresas en los últimos meses.
Modificación en la instalación edilicia, a través de la construcción de una JAULA de FARADAY.	Junio 2015	Electricidad	---	INTN	Eliminar el efecto de cualquier campo electromagnético en el interior de del laboratorio.
Peer review	Marzo 2015	Masa	---	LATU	Presentación 5 years-review QSTF 2015
Peer review	Octubre	Presión	---	INMETRO	Presentación QSTF 2015
Peer review	Noviembre 2015	Temperatura	---	INACAL	Presentación QSTF 2016
Escuela de Metrología Andina	Agosto/ Septiembre 2015	Volumen	2	IBMETRO	Mejora de los conocimientos del personal técnico
Taller Internacional de Verificación de Básculas y Aprobación de modelos OIML R76	Abril 2015	Metrología Legal – Masa	2	CENAMEP	Mejora en la calidad del servicio y adecuación a los requisitos de la OIML.
Estancia Técnica	Abril 2015	Metrología Legal	4	INTI	Mejora en la calidad del servicio: Surtidores y Básculas.
Estancia Técnica	Diciembre 2014	Metrología Legal	3	INMETRO	Mejora en la calidad del servicio: Surtidores y Aprobación de Modelos.
Estancia Técnica	Julio 2015	Metrología Legal	2	IPEM – Brasil	Mejora en la calidad del servicio: Medidores de 20 litros. Servicio nuevo: Aprobación de modelo Taxímetros
Estancia Técnica	Octubre 2015	Metrología Legal	1	INMETRO	Servicio nuevo: Pre medidos
Workshop en Calibración de Masas	Agosto	Masa	2	INEN	---

Workshop Assessment and acceptance of electrical energy meters type	Abril 2015	Electricidad	2	INTI	
Working Group meeting	Enero 2015	Tiempo y Frecuencia	1	CENAMEP	---
Calibration Methods for Standard Resistors, Applications for Calibration of Megohmmeters	Mayo 2015	Electricidad	1	INTI	---
Cursos Dictados por Técnicos del INTN	Mayo 2015	Longitud y Grandes Volúmenes	--	CENAMEP	Primeros cursos dictados fuera del país. Dentro del Convenio de Cooperación Bilateral Paraguay y Panamá
Visita Técnica	Agosto 2015	Tiempo y Frecuencia	2	CENAMEP	Actualización y desarrollo para la implementación de nuevo servicio.
Firma de MoU con el KRISS de Corea, para el área de Metrología Científica e Industrial	Setiembre 2015	Metrología Científica e Industrial	---	---	Mejora de las capacidad de los distintos Laboratorios.
Firma de un MoU con el KTC de Corea, en el área de la Metrología Legal	Noviembre 2015	Metrología Legal	---	---	Mejora de las capacidad de los servicios ofrecidos en el campo de la Metrología Legal (surtidores, medidores de energía eléctrica y pre medidos)
Participación con un Stand en la XXXIV Expo Feria Internacional de Ganadería, Industria, Agricultura, Comercio y Servicios"	Julio 2015	---	---	---	Mayor visibilidad en relación a que es la Metrología. Con el eslogan de "La Metrología del Tereré y el Mate"



LATU- URUGUAY

ACHIEVEMENTS SINCE LAST GA:

Quality:

- Implementation of ISO Guide 34 in the 3 areas with evaluation Internal Quality Audit process and subsequent inclusion in the processes map of LATU and in LATU Quality Manual .

Projects:

- Participation in the projects funded by the PTB "Climate change and Biodiversity": Quinoa, vehicle emissions, and GHG with consequent shares of meetings and ongoing training.
- Participation in the project: EMPIR-Project proposal SRT-s11 "Maintaining and disseminating the new SI unit kilogram via spheres of natural silicon". Coordinated by PTB
- Participation in a Binational cooperation project together with CENAM "Effective measures to support local development "
- Method validation of the determination of creatinine in serum by ID GC MS

International presentations:

- Participation in traceability workshop with presentation of achievements in the area of clinical is funded by the PTB under the COLABIOCLI area.

Comparisons:

- Participation of K124 (drinking water) and K125 (milk powder) in the area of Inorganic.

SIM.T- S6

Comparison of Type S thermocouples 2012 – 2014

Comparison type, Field

Supplementary comparison in Thermometry, Thermocouples

Status

Report in progress, Draft A

SIM.T- S8

Comparison of results of calibration of SPRTs 2014

Comparison type, Field

Supplementary comparison in Thermometry, Standard Platinum
Resistance Thermometers
Temperature: -39 °C to 420 °C

Status

In progress

Trainings received:

- Training in the NRC "Determination of Hg by Isotope Dilution Mass Spectrometry Inductively coupled plasma magnetic sector".

Trainings provided:

- We organized an internship for CENAMEP in thermometry in June 2015

Services:

- Increasing the offer of regional PTs in calibration: mass (weights), volume (micropipette) , temperature (PT 100)

Mercosur begun the implementation of a PTB project in Energy efficiency. This is a project that the "Grupo Mercado Común" specifically SG3 has signed with PTB and it will take support the QI for labelling of different household appliances.



	CMC General Physics	CMC Ionizing Radiation	CMC Chemistry
Argentina	201	48	35
Brazil	351	119	115
Chile	44		
Paraguay	23		
Uruguay	210		



Thanks for your attention!

Gracias!

Merci!

Obrigado!