

SIM PR Report

23rd CCPR Meeting
2016



Maria E. Nadal
SIM TC-PR Chair
NIST

Outline:

- Training
- Quality systems and CMCs
- Comparisons

Members of SIM Technical Committee on Photometry and Radiometry

- **CENAM, Mexico**
 - *Carlos H. Matamoros García ; cmatamor@cenam.mx*
- **INM, Colombia**
 - *Juliana Serna Saiz; jserna@inm.gov.co*
- **INMETRO, Brazil**
 - *Iakyra B. Couceiro; ibcouceiro@inmetro.gov.br*
- **INTI, Argentina**
 - *Eduardo Yasan; edy@inti.gov.ar*
- **LACOMET, Costa Rica**
 - *Illeana Hidalgo; ihidalgo@lacomet.go.cr*
- **NIST Gaithersburg, USA**
 - *Maria Nadal; maria.nadal @nist.gov*
- **NRC, Canada**
 - *Joanne Zwinkels; Joanne.zwinkels@nrc-cnrc.gc.ca*



2015 SIM XXI General Assembly

- Dominican Republic, Nov. 16th – 17th 2015
- Technical Committees and Quality System Task Force meetings
- Workshop on ISO 17025 revisions
- Workshop on OIML, International Organization of Legal Metrology
- Workshop on CMCs review process
 - ✓ >90 % reported from JCRB



2016 SIM-NIST Training Workshop on Comparison Analysis

- Lectures:
 - Fundamentals of Photometry, Radiometry, and Spectrophotometry
 - Uncertainty analysis – Key Comparison Reference Value, KCRV and Degree of Equivalence, DoE
 - CCPR Guidelines: G5, G6 on RMO Comparison Linkage CMCs Review Process
 - SIM Quality Task Force and the NIST Quality System
 - Calibration Measurement Capabilities, CMCs Review Process – From Submission to Final Approval
- NIST Laboratory Tours
- Participating Countries: Argentina, Brazil, Canada, Columbia, Costa Rica, Mexico, and the United States.

Fundamentals of Metrology for SIM Members

- Location: NIST, Gaithersburg
- Dates: January 30, 2017 to February 03, 2017
- Topics:
 - Measurement systems and measurement uncertainties
 - Measurement assurance
 - Traceability
 - Laboratory quality management system
 - Calibration certificate generation
 - Auditing process

NIST-SIM Engagement Opportunity

- This program is aimed at **strengthening the metrology infrastructure within SIM** and is limited to staff of SIM member National Metrology Institutes (NMIs) and Designated Institutes (DIs).
- Fourth year
- NIST Contact: Andrew Conn (Andrew.conn@nist.gov)
- Recent Guest researchers:
 - ✓ CENAM, ICE, INM, INMETRO, INTI, LATU

SIM PR Quality Systems

Country	NMI	Status	Approval Date
Argentina	INTI	Approved	April 2015
Brazil	INMETRO	Re-Approved	April 2015
Canada	NRC	Re-Approved	April 2015
Mexico	CENAM	Peer-review 2016	Scheduled for Spring 2017
USA	NIST	Assessments 2015-2016	Scheduled for Spring 2017

Review of SIM CMCs on PR

Country	NMI	Status	Approval Date
Canada	NRC	Approved	2014
Argentina	INTI	Approved	2015
USA	NIST	Inter-RMO review process	
Brazil	INMETRO	SM review process	

2016 SIM Status of Comparisons

1. SIM PR.K4 (Luminous Flux)
 - Participants: CENAM, IMETRO, INTI, NIST, and NRC
 - Final report completed
2. SIM PR.S3.1 (NIST-INMETRO Bilateral for Cryogenic radiometer/trap Link INMETRO to CCPR-S3)
 - Final report completed
3. SIM PR.K6 (Spectral Regular Transmittance)
 - Participants: CENAM, CMS/ITRI, INM-Colombia, INMETRO, NIM, NIMT, NIST (Link and Pilot), and NRC (Link)
 - Protocol approved by CCPR WG-KC
 - Received filters from MSL
 - Next step: Register SIM PR.K6 with KCDB
4. SIM PR.K3 (Luminous Intensity)
 - Pilot: CENAM
 - Participants: INMETRO, INTI, NIST, and NRC
 - Next: Develop technical protocol

SIM Comparisons Participation

- ✓ NIST and NRC: second round of KCs
- ✓ APMP.PR.S7 (Diffuse Reflectance): CENAM and NIST
- ✓ APMP.PR.S8 (Fiber Optic Length): CENAM
- ✓ COOMET.PR.S7 comparison between VNIIOFI and NIST for laser power K-lab 1W at 1.064 μm and 0.532 μm . Measurements completed. Final paper will follow.
- ✓ COOMET PMD supplementary comparison: CENAM
- ✓ Pilot study for photon counting detector at 850 nm, PTB is running the pilot study, NIST Gaithersburg and Boulder are participating.

THANK YOU