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. 16\textsuperscript{th} – 17\textsuperscript{th} 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](mailto:Andrew.conn@nist.gov))

• Recent Guest researchers:
  ✓ CENAM, ICE, INM, INMETRO, INTI, LATU
## SIM PR Quality Systems

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## Review of SIM CMCs on PR

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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