



## SIM Temperature Metrology Working Group report to CCT

Edgar Méndez Lango  
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- Chair:
 

|                            |             |
|----------------------------|-------------|
| Ofelia Robatto (LATU)      | 2013 – 2015 |
| Edgar Méndez Lango (CENAM) | 2016 – 2018 |
  
  - Activities since last CCT meeting
    - Meeting Querétaro September 2016  
8 countries of SIM region were represented  
 Actions:
      1. Review protocols were shared with participants to increase participation in CMC review process.
      2. Directory of CMC reviewers and peer to peer reviewers is in preparation.
      3. Surveys in progress to identify:
        - Capacitation needs,
        - comparison needs and
        - technical documentation in Spanish needs.
  
    - Comparisons. In Annex 1 is full list description.  
 Published: 5 key, 1 supplementary,  
 Progress: 1 key, 5 supplementary and  
 Planned: 1 key, 1 supplementary.
  
    - CMC registration.  
 INM – Colombia: 37 CMC entries; through fast track process. November 2015.  
 NRC – Canada: 2 new entries on humidity; not approved, February 2017
  
    - Training  
 Radiation thermometry course for SIM laboratories staff.  
 Instructors: Marcelo Jiménez, Daniel Cárdenas y Edgar Méndez.  
 October 2015, Córdoba Argentina; INTI facilities.  
  
 Leaders of Tomorrow – training for the next generation of Technical Committee (TC) and Working Group (WG) chairs. BIPM facilities. November 2016. Two SIM thermometry members. Sponsored by NIST.



Uncertainty in calibration of PRTs by fixed points.  
 Instructor A. Possolo (NIST) with examples provided for SIM laboratories staff.  
 Planned to be realized 2017. In progress.

- o Workshop: Metrology for Meteorology and Climatology, organized by INTI and granted by PTB. March, 2017.

## Annex 1. List of comparisons

Reference, consulted 2017-05-29:

[http://kcdb.bipm.org/AppendixB/KCDB\\_ApB\\_search\\_result\\_popup.asp?print=1&search=1&cmp\\_cod\\_search=&page=4&met\\_idy=9&bra\\_idy=0&epo\\_idy=0&cmt\\_idy=0&ett\\_idy=5&cou\\_cod=0](http://kcdb.bipm.org/AppendixB/KCDB_ApB_search_result_popup.asp?print=1&search=1&cmp_cod_search=&page=4&met_idy=9&bra_idy=0&epo_idy=0&cmt_idy=0&ett_idy=5&cou_cod=0)

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|---------------------------|--|
| <b><u>SIM.T- K6.1</u></b> | <b>Realizations of local scales of dew/frost-point temperature of humid air 2011</b>                     |
| Comparison type, Field    | Key comparison in Thermometry, Humidity<br>Temperature range: -25 °C to +20 °C<br>Bilateral NIST/NRC     |
| Status                    | <b>Approved for equivalence</b>  |
| <b><u>SIM.T- K6.2</u></b> | <b>Realizations of local scales of dew/frost-point temperature of humid air 2008</b>                     |
| Comparison type, Field    | Key comparison in Thermometry, Humidity<br>Temperature range: -20 °C to +20 °C<br>Bilateral NIST/CENAM   |
| Status                    | <b>Approved for equivalence</b>  |
| <b><u>SIM.T- K6.3</u></b> | <b>Realizations of local scales of dew/frost-point temperature of humid air 2009 - 2010</b>              |
| Comparison type, Field    | Key comparison in Thermometry, Humidity<br>Temperature range: -30 °C to +20 °C<br>Bilateral NIST/INMETRO |
| Status                    | <b>Approved for equivalence</b>  |
| <b><u>SIM.T- K6.5</u></b> | <b>Comparison of dew/frost-point temperature standards 2015</b>  |
| Comparison type, Field    | Key comparison in Thermometry, Humidity<br>Temperature range: -40 °C to +20 °C<br>Bilateral NIST/LACOMET |
| Status                    | <b>Approved for equivalence</b>  |
| <b><u>SIM.T- K6.6</u></b> | <b>Comparison of dew/frost-point temperature standards 2017</b>  |
| Comparison type, Field    | Key comparison in Thermometry, Humidity  |
| Status                    | <b>Planned</b>   |
| <b><u>SIM.T- K6.7</u></b> | <b>Comparison of dew/frost-point temperature standards 2017</b>  |
| Comparison type, Field    | Key comparison in Thermometry, Humidity  |
| Status                    | <b>In progress</b>   |
| <b><u>SIM.T- K9.1</u></b> | <b>Realizations of the ITS-90 from 273.16 K to 692.7 K 2012</b>  |



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|--|--|
| Comparison type, Field<br>Parameter(s)<br>Status | Key comparison in Thermometry, Standard Platinum Resistance Thermometers<br>Fixed points of Ga (302.9146 K), Sn (505.078 K), and Zn (692.677 K)<br><b>Approved for equivalence</b> |
| <b><u>SIM.T- S3</u></b>                          | <b>Comparison of platinum resistance thermometers 2007 - 2008</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Standard Platinum Resistance Thermometers<br>Temperature range: -39 °C to 232 °C<br><b>Report in progress, Draft B</b>                    |
| <b><u>SIM.T- S4</u></b>                          | <b>SPRT calibration comparison at Hg, TPW, Ga, Sn and Zn ITS-90 fixed points 2008</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Standard Platinum Resistance Thermometers<br><b>Report in progress, Draft B</b>   |
| <b><u>SIM.T- S5</u></b>                          | <b>Comparison of the calibration of 100 ohms platinum resistance thermometers 2013 - 2014</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Standard Platinum Resistance Thermometers<br><b>Approved and published</b>  |
| <b><u>SIM.T- S6</u></b>                          | <b>Comparison of Type S thermocouples 2012 - 2014</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Thermocouples<br><b>Report in progress, Draft A</b>   |
| <b><u>SIM.T- S7</u></b>                          | <b>Comparison of results of calibration of industrial type platinum resistance thermometers 2015 -</b>   |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Standard Platinum Resistance Thermometers<br>Temperature: -60 °C to 400 °C<br><b>Protocol complete</b>                                    |
| <b><u>SIM.T- S8</u></b>                          | <b>Comparison of results of calibration of SPRTs 2014</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Standard Platinum Resistance Thermometers<br>Temperature: -39 °C to 420 °C<br><b>In progress</b>  |
| <b><u>SIM.T- S9</u></b>                          | <b>Comparison of frost-point temperature standards 2017</b>  |
| Comparison type, Field<br>Status                 | Supplementary comparison in Thermometry, Humidity<br><b>Planned</b>  |