CCT WG NCTh update

Graham Machin; WG NCTh chair
18 Jan 2022
Updates from 2021

- Progress with CCT K10
- Guide on industrial radiation thermometry
- CCT TG Body temperature measurement
- Publications and meetings
Current status of CCT K10

- Led by Helen McEvoy (NPL)
- Draft B report has been approved by participants and is currently being reviewed by CCT WG-KC
- Assuming not much re-working is required then target completion of comparison end of March
- Summary publication/s will follow in 2022
TG for guide on industrial radiation thermometry

- Chair: Mohamed Sadli (LNE-Cnam)
- Members: Howard Yoon (NIST), Peter Saunders (NZ), Helen McEvoy (NPL), Lenka Kňazovická (CMI), Ferruccio Girard (INRIM), Daniel Cardena (CENAM), Ricardo Sohn Moretz (INMETRO) and Maria-Jose Martin (CEM).

- Good progress has been made with:
  - Defining the content and assigning preparing the sections to the participants.
  - There are two main sections: a) low-temperature thermal detectors b) higher-temperature quantum detectors.
  - Thermal imaging is excluded (a future guide)
  - Participants have had four meetings lastly 12th Jan 2022
TG Body Temperature Measurement

- Core group of: Graham Machin (chair), Maria-Jose Martin (CEM), Igor Pusnik (UL), Xiaofeng Lu (NIM) and Wang Li (A*STAR)
- Published metrology focused guides for ear and forehead thermometry on the BIPM website, English & Spanish. These are now being shortened into clinical focused guides
- Third metrology guide on thermal imaging for fever screening is out for comment by the CCT
- The TG has also prepared the protocol for the Key Comparison of IR clinical thermometer calibrators. KC to be launched Spring 2022
- Provided on-going metrology input into clinical thermometer standards
TG BTM chair given 8 invited talks on this topic in 2021; 3 to UK government agencies including Medical Device Safety, 2 World Metrology Day celebrations (Saudi Arabia, Denmark), 2 Universities and European Society Medicine

Published 3 related papers:

- Machin, G., Xiaofeng Lu, del Campo, D., Martin, M-J., Pusnik, I., Wang Li “Improving body temperature measurement on a global basis”, *Thermology International* 31(1) 5-10 (2021)
- Machin, G., Xiaofeng Lu, del Campo, D., Martin, M-J., Pusnik, I., Wang Li, “Progress in improving body temperature measurement on a global basis”, *Thermology International* 31(3) 79 (2021)
Future WG plans before next CCT

- Completion and publication CCT K10 results
- Completion of industrial thermometry guide
- Completion and publication on BIPM website of fever screening guide by thermal imaging
- Completion and publication of medic focused guides for ear, forehead and thermal imaging for body temperature measurement and fever screening
- Completion of measurements for KC of clinical thermometer calibrators
- Consideration given to a) best practice guide for temperature measurement by thermal imaging b) whether a KC for 1) $T$ at high temperatures at 2) mid temperatures is required
- Next meeting of WG to be at ITS-10 April 2023