

**WMO OMM**

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

Secrétariat

7 bis, avenue de la Paix – Case postale 2300
CH 1211 Genève 2 – Suisse
Tél.: +41 (0) 22 730 81 11
Fax: +41 (0) 22 730 81 81
wmo@wmo.int – public.wmo.int

Our ref.: 11183/2021/I/ONM/MQC/Wksp-QTC-Temp

19 May 2021

Annex: 1 (available in English only)

Subject: WMO Online Training Workshop on Quality, Traceability and Compliance – General Metrology and Temperature, for RICs and RMICs

Action required: To nominate up to two experts from your country to participate at the Training Workshop by informing the WMO Secretariat not later than **31 May 2021**

Dear Sir/Madam,

I am pleased to inform you that World Meteorological Organization (WMO) is organizing an online Training Workshop on Quality, Traceability and Compliance – General Metrology and Temperature, for Regional Instrument Centres (RICs) and Regional Marine Instrument Centres (RMICs), from 8 to 15 June 2021. The training workshop will be held in English, using the MS Teams platform.

The training workshop will cover general topics such as metrology in meteorology, interlaboratory comparisons, competencies of laboratory personnel, terminology and vocabularies, with a particular focus on calibration and measurement uncertainties and temperature sensors calibration. The training workshop will comprise five two-hour sessions. The first four sessions will be held over four consecutive days (8 – 11 June 2021), while the last session, scheduled on 15 June 2021, will include the training wrap-up. The tentative workshop programme is provided in the [annex](#), for your convenience.

The training workshop is designed to be practical and interactive and relies on active participants' contributions. It will include many opportunities for interaction with facilitators and fellow participants. It is expected that through the workshop, participants gain ideas and knowledge for possible improvement of calibration facilities and capabilities of their laboratories towards obtaining or maintaining ISO/IEC 17025 accreditation. The participants will be expected to attend all five workshop sessions and contribute to group exercises and forum discussions.

The target audience for the workshop is managers and technicians of RICs and RMICs responsible for calibrations and uncertainty calculation, particularly in the domain of temperature.

To: Permanent Representatives of WMO Members hosting RICs and RMICs (limited distribution)

The nomination of your expert(s) should include the following: First Name, Family Name, Job Title, Institution, Email. These details should be sent to the WMO Secretariat, Mr Krunoslav Premec, Scientific Officer, Measurement, Quality and Compliance Unit (kpremec@wmo.int) as soon as possible but not later than **31 May 2021**.

I look forward to your nomination of appropriate expert(s) for this training workshop.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Zhang', with a stylized flourish at the end.

Dr Wenjian Zhang
for the Secretary-General

**WMO Online Training Workshop on Quality, Traceability and
Calibration – General Metrology and Temperature**

Tentative programme

Ref.: 11183/2021-1.3 IWMIGOS

Tuesday, 8 June 2021, 1100 to 1300 UTC, Moderator: D. Groselj

Topic	Time	Presenter	Notes
Getting started	11:00-11:30	D. Groselj	Introduction to training course, housekeeping, short participant introductions
Metrology in Meteorology	11:30-12:20	A. Merlone, D. Groselj	General principles of metrology, relevant world metrology institutions, traceability chain, calibration, discussion
Interlaboratory Comparisons	12:20-12:45	D. Groselj	Introduction to interlaboratory comparison, with examples, discussion
Competencies of Laboratory Personnel	12:45-13:00	D. Groselj	Presentation of competency framework for laboratory personnel, discussion

Wednesday, 9 June 2021, 1100 to 1300 UTC, Moderator: D. Groselj

Topic	Time	Coordinator	Notes
Terminology and Vocabularies	11:00-12:30	A. Merlone	Measurement terminology, vocabularies and legal aspects, discussion
Introduction of the exercise	12:30-13:00	A. Merlone	Introduction of the exercise on uncertainty budget for a selected measurement, to be completed by participants, discussion

Thursday, 10 June 2021, 1100 to 1300 UTC, Moderator: D. Groselj

Topic	Time	Presenter	Notes
Calibration and Measurement Uncertainty	11:00-12:30	A. Merlone, D. Groselj	Overview of definitions, processes and methods for evaluation of uncertainties in laboratory calibration and field measurement processes, discussion
Discussion of the exercise	12:30-13:00	A. Merlone, D. Groselj	In depth discussion of the proposed exercise

Friday, 11 June 2021, 1100 to 1300 UTC, Moderator: D. Groselj

Topic	Time	Presenter	Notes
Temperature calibration (ITS-90)	11:00-11:40	C. Garcia Izquierdo	Introduction of the ITS-90: Fixed points, Standard Platinum Resistance Thermometers (SPRTs), discussion
Temperature calibration	11:40-13:00	C. Garcia Izquierdo	Procedure for the calibration of thermometers by comparison, and associated uncertainty budget, discussion

Tuesday, 15 June 2021, 1100 to 1300 UTC, Moderator: D. Groselj

Topic	Time	Presenter	Notes
Course wrapping-up	11:00-13:00	D. Groselj, A. Merlone, C. Garcia Izquierdo	Participant presentations of the exercise on uncertainty budget Final discussion, summary of the workshop and closing remarks