



Our ref.: 03832/2022/I/WIGOS/ONM/MQC/TECO-2022

1 March 2022

Annex: 1 (available in English only)

Subject: Announcement and Call for Abstracts for the 2022 WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (TECO-2022)

Action required: To distribute the announcement to interested parties, and to submit abstracts of papers via the WMO website as soon as possible, but **not later than 15 May 2022**

Dear Sir/Madam,

The World Meteorological Organization (WMO) is organizing the 2022 WMO Technical Conference on Meteorological and Environmental Instruments and Methods of Observation (TECO-2022) with the theme: *Sustainable fit-for-purpose measurements – a foundation of the WMO Earth System approach*.

TECO-2022 will be held in Paris, France, at the Paris Expo Porte de Versailles, Hall 7.1, from 10 to 13 October 2022, in a hybrid format.

The Conference will take place in conjunction with the Meteorological Technology World Expo organized by UKi Media & Events, from 11 to 13 October 2022. It will also include the presentation of the 2021 and 2022 Professor Dr Vilho Väisälä Awards.

This event is for all those involved with instruments and methods of observation from National Meteorological and Hydrological Services (NMHS), environmental agencies, other national and international organizations dealing with measurements, research institutes and academia, the private sector (especially instrument manufacturers and measurement providers) and other interested individuals.

The conference aims at strengthening the WMO Integrated Global Observing System (WIGOS) measurement community by enhancing knowledge of environmental measurement techniques, methodologies and related quality procedures, including implementation of the Global Basic Observing Network, sharing information on the latest developments in instrumentation and measurement techniques, and at fostering collaboration among WIGOS stakeholders, including manufacturers, research institutions and academia.

To: Permanent Representatives of Members with WMO

cc: Hydrological Advisers to Permanent Representatives
Presidents and vice-presidents of technical commissions
Presidents of regional associations
Chair and vice-chair of the Research Board
Director General, ASECNA
Executive Secretary, HMEI

An International Programme Committee (IPC), chaired by Mr Bruce Hartley, Chair of the Standing Committee on Measurements, Instrumentation and Traceability of the WMO Infrastructure Commission, will oversee the Conference and will be responsible for the selection of papers for oral presentations or poster displays.

The purpose of this letter is to announce the Conference and to invite the submission of abstracts. Those wishing to present an oral or poster presentation at TECO-2022 are kindly requested to follow the instructions provided in the [annex](#) or on the conference [website](#).

For technical reasons, consideration can only be given to abstracts, in English, of less than **300 words**, which are submitted online before **15 May 2022**.

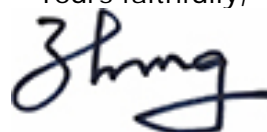
Lead authors of papers selected by IPC will be advised in June 2022 with further instructions concerning the format and submission deadline for papers or posters for publication in the Conference Proceedings.

The authors of the abstracts submitted for TECO-2020 conference, that was not held because of the COVID-19 pandemic, are kindly requested to resubmit their abstracts as explained above.

Limited financial support may be available for selected participants from lesser developed countries, who are presenting papers.

I should be grateful if you would make this announcement widely known within your respective Service and beyond.

Yours faithfully,



Dr Wenjian Zhang
for the Secretary-General



The World Meteorological Organization is pleased to announce
**The 2022 WMO Technical Conference on Meteorological and
 Environmental Instruments and Methods of Observation (TECO-2022)**

Paris, France, 10-13 October 2022

Theme: *Sustainable fit-for-purpose measurements – a foundation of the
 WMO Earth System approach*

The following main topics will be addressed at the Conference:

- 1. Innovative measurements, techniques and integration**
 - *New developments and innovations in instruments, techniques and technologies, including overcoming challenges to make them sustainable, including the Greenhouse Gas emission measurements supporting global emission monitoring*
 - *Integrated approaches*
 - *Newly developed or improved algorithms*
 - *Opportunities and risk management of low-cost sensors and systems*
 - *Updates on innovative initiatives and programmes (such as Hydrohub, etc.)*
- 2. Intercomparisons and characterization of instruments and methods**
 - *Instrument intercomparisons – current initiatives and projects, methods, techniques, performance, analyses and results*
 - *Characterization of new instruments and measurement methods*
 - *Performance of instruments under harsh environments and in extreme weather conditions*
 - *Characterization of new and crowd-sourced data sources, such as radio links, vehicles, cellular phones*
 - *Transition of research-based observing systems and techniques into sustained operations*
- 3. Traceability of measurements to recognized standards**
 - *Mechanisms to ensure measurement traceability to recognized standards*
 - *Development and maintenance of standards and standard procedures*
 - *Field inspection and verification methods and procedures*
 - *Calibration methods and procedures applied in the laboratory and in the field*

- *Measurement uncertainty and verification criteria in the laboratory, the field, and overall*
- *Protocols for, and experiences and results from interlaboratory comparisons*

4. Measurement quality assurance and quality control

- *Techniques and procedures for quality assurance (including maintenance, verification, and preventive and corrective measures)*
- *Quality control mechanisms - the ideal and actual experiences*
- *Experiences with implementation and operation of quality management systems*
- *Mechanisms for assessment of measurement qualification and classification, and indicators in support of various application areas*

5. Capacity development towards quality measurements and sustainability

- *Organization experience with personnel competences related to installing, operating, calibration and maintenance of equipment*
- *How to identify gaps in competency frameworks and what action can be taken*
- *Experiences with training activities and outreach material*
- *Best practices for tendering processes and purchasing of systems and instruments*
- *Experiences with capacity development projects, including with donors and funding agencies*

6. Advancing Measurements in support of WIGOS vision 2040

- *Implementation of environmentally-friendly and sustainable measurement equipment technologies*
- *Best practices for addressing the user measurement requirements with existing technologies*
- *Addressing challenges for user requirements where suitable technology does not exist*
- *Approaches for addressing user requirements in data-sparse areas*
- *Integration of measurements (space-, aircraft- and surface- based) through collaboration with different entities at national, regional and global levels*
- *Development and implementation of Global Basic Observing Network*
- *Experiences with Public-Private-Engagement*
- *Opportunities and challenges with artificial intelligence, big data and crowd sourcing (internet of things)*
- *Best practices for data exchange and data formats*

TECO-2022 will be conducted in English only. All information concerning the Conference, including the Abstract Submission Form, is available on the [WMO/IMOP website](#).

The deadline for submission of the extended abstracts and posters in their required format will be provided in the acceptance letter to be sent to authors of selected abstracts, in June 2022. Papers accepted for presentation will be published in their original form (without editing) in the WMO Instruments and Observing Methods Report series.

Abstracts of proposed papers, not exceeding 300 words, in English only, should be submitted, using the electronic version of the Submission Form, via the above-mentioned weblinks, not later than **15 May 2022**.

Should you have any further questions, please do not hesitate to contact:

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