

**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**

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Ref.: 13603/2023-12 MS

Our ref.: 13603/2023/MS/ETR

19 July 2023

Annexes: 2

Subject: WMO VCP Workshop on Recent Advances of Severe Weather Forecasting Techniques using Machine Learning, Hong Kong Observatory, from 4 to 8 December 2023

Action required: For information and appropriate action, no later than **31 August 2023**

Dear Sir/Madam,

I have the pleasure to inform you that the Hong Kong Observatory (HKO) will organize a workshop on Recent Advances of Severe Weather Forecast Techniques using Machine Learning at the Hong Kong Observatory Headquarters from 4 to 8 December 2023.

The workshop will introduce principles, recent developments, and applications of artificial intelligence or machine learning (AI/ML) methods for nowcasting to medium-range prediction of severe weather. The workshop will consist of lectures, practical and experience sharing sessions. A brief description of the workshop is given in [Annex I](#).

The workshop aims to address the training and capacity-building needs for WMO Members who need to develop AI/ML techniques in support of forecasting services on severe weather. Participants involved in the development of nowcasting or forecast systems using AI/ML are welcome to attend the workshop. The workshop will accommodate around 20 participants, with preference given to RA II and RA V Members.

Acceptance of those from other RAs will be subject to availability of places. The HKO is prepared to cover the tuition, lodging and per diem expenses for all participants, and offer air passages to some Members on their request.

Interested candidates are requested to complete the attached Participants Nomination Form ([Annex II](#)), and send directly to Mr Terence Kung (email: [tkung@hko.gov.hk](mailto:tkung@hko.gov.hk) or fax: +852 2375 2645), as soon as possible but not later than **31 August 2023**.

Yours faithfully,

Dr Wenjian Zhang  
for the Secretary-General

To: Permanent Representatives of Members with WMO

cc: Hydrological Advisers

**WMO VCP WORKSHOP ON  
RECENT ADVANCES OF SEVERE WEATHER FORECAST TECHNIQUES  
USING MACHINE LEARNING**

**4–8 December 2023**

**Hong Kong Observatory, Hong Kong, China**

Ref: 13604/2023-1.1 MS/ETR

**Objectives**

- (a) To introduce principles, recent developments, and applications of artificial intelligence or machine learning (AI/ML) methods for nowcasting to medium-range prediction of severe weather;
- (b) To address the training and capacity-building needs for WMO Members who need to develop AI/ML techniques in support of forecasting services on severe weather.

**Contents**

1. Principles of AI/ML techniques in weather prediction.
2. Algorithms and ML models in nowcast to medium-range forecasts of heavy rain.
3. Recent research development of advanced AI/ML techniques in severe weather prediction.
4. Experience sharing on development of AI/ML methods from nowcasting to Numerical Weather Prediction (NWP) model post-processing perspectives.
5. Hands-on tutorial, participants' sharing and discussion on AI/ML techniques.

**Medium of instruction**

In-person attendance and conducted in English

**Course dates**

Monday, 4 – Friday, 8 December 2023

**Course venue**

Hong Kong Observatory Headquarters

**Deadline for application**

The completed WMO Fellowship Nomination Form should be returned to the Hong Kong Observatory (Mr Terence Kung, Scientific Officer, Hong Kong Observatory, Hong Kong, China. Email: [tkung@hko.gov.hk](mailto:tkung@hko.gov.hk), Fax: (852) 2375 2645) with a copy to the WMO Secretariat by **31 August 2023**.

## Places offered

Around 20 participants. Preference will be given to qualified applicants from RA II and RA V Members.

## Qualification and requirements of participants

- Participants should be proficient in English.
- Participants should have knowledge and experience in using radar, satellite and NWP model forecast data in severe weather prediction.
- Participants should have experience on forecast system development and software programming using Python, C/C++ and/or AI/ML software development tools and libraries.
- Participants are expected to have a hands-on role in leading/carrying out the associated research/development/operation in implementing or enhancing nowcast to medium-range forecasts of severe weather.
- All participants are required to provide the course organizer with feedback on the usefulness of the knowledge and skills acquired within six months after attending the workshop, especially on how the acquired knowledge and skills would be applied in their NMHSs.
- All participants are encouraged to actively maintain technical exchange and communication with the organizer and among themselves after the workshop.

## Fellowship

- Tuition fee will be waived. Lodging will be provided, supplemented by a per diem allowance of HK\$ 180 per day.
- The costs of air passage and related insurance costs between Hong Kong, China and the home town of participants will have to be borne by the recipient WMO Members. In the event any Member is unable to meet the air passage costs, the course organizer is prepared to offer a limited number of air passages for those in need, on a case-by-case basis.

## Insurance

The course organizer does not hold any responsibility for compensation in the event of death, illness, injury or loss of property during the course period. The same applies to the duration of passage in the event the course organizer provides the air passages. Participants are therefore fully responsible for arranging life, health, and other forms of insurance as appropriate and necessary.

## Enquiries

Mr Terence Kung, Scientific Officer, Hong Kong Observatory, Hong Kong, China.

Email: [tkung@hko.gov.hk](mailto:tkung@hko.gov.hk), Fax: (852) 2375 2645, Tel: (852) 2926 8319.

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**PARTICIPANTS NOMINATION FORM**

**WMO VCP WORKSHOP ON  
RECENT ADVANCES OF SEVERE WEATHER FORECAST TECHNIQUES  
USING MACHINE LEARNING**

**Hong Kong, China**

**4–8 December 2023**

Ref: 13605/2023-11 MS/ETR

The Government of

\_\_\_\_\_ nominates the following candidate as a participant of the above workshop.

1. Family name (in capitals):

\_\_\_\_\_

2. First name (in capitals):

\_\_\_\_\_

3. Address:

\_\_\_\_\_

\_\_\_\_\_

Tel:

Fax:

Email:

\_\_\_\_\_

\_\_\_\_\_

4. Date of birth:

Male

Female

Nationality:

\_\_\_\_\_

\_\_\_\_\_

5. Qualifications (certificates, diplomas or degrees):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Present position and brief description of duties:

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7. What roles or tasks will your participant be required to undertake after this workshop to enable your service to make the most of the opportunity to develop new knowledge and skills?

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8. Working language:

Note: For applicants whose working language is not ENGLISH, this nomination form must be accompanied by the English proficiency certification.

9. Person to contact person in case of emergency:

Name:

Address:

Tel:

Fax:

Email:

10. (a) Financial assistance for air passage required: Yes  No

(b) Financial assistance for hotel accommodation and per diem allowance (HK\$ 180 per day) required: Yes  No

11. I fully understand that the organizer does not hold any responsibility for compensation in the event of death, illness, injury or loss of property during the period of the workshop.

Ref.: 13605/2023-11 MS/ETR

Permanent Representative:

(Signature)

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(Block letters)

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Date:

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To be completed and sent to reach the following address on or before **31 August 2023**:

Director of the Hong Kong Observatory  
(Attn: Mr Terence Kung, Scientific Officer)

134 A, Nathan Road  
Hong Kong, China

Tel: +852 2926 8319      Fax: +852 2375 2645

Email: [tkung@hko.gov.hk](mailto:tkung@hko.gov.hk)

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