



**Directorate of Outcome**  
**Outcome Report (Event/Activity Organized @ AUH)**

**1. General Information**

**Date:** 23 March 2022 (10:00am to 1:30pm)  
**Event Type:** National Workshop (Online Webinar)  
**Event Title:** World Meteorological Organization (WMO) Day Celebration (Poster Attached).  
**Event Theme:** “Early Warning and Early Action” with An Emphasis on Hydrometeorology and Climate Information to Disaster and Risk Reduction  
**Venue:** Webex (Online)  
**Web/Video Link of the Event:** <https://youtu.be/370rs4Ve6YY>  
**Organized by:** Amity Centre for Ocean-Atmospheric Science and Technology (ACOAST) & Amity Centre for Environmental Science and Health (ACESH)  
**In collaboration with:** Earth System Science Organization (ESSO) – India Meteorological Department (IMD), Ministry of Earth Sciences (MoES), New Delhi  
**Event Level:** National  
**Total no of participants:** Registered: > 45 Attended: > 42  
**Student Participation\*:** No. of Students from AUH (Course-wise): > 10  
**Faculty Participation\*:** No. of Faculty Members from AUH: > 10  
**Participation from outside AUH\*:** No. of Students & Faculty Members: ~ 25  
**Event Organiser with designation:** Prof. Dr. P.C.S. Devara, Director & Professor, ACOAST/ACESH.  
**Event Coordinator:** Dr. Abul Amir Khan, AP-I & Head, ACOAST/ACAPC, AUH

**Details of Expert/Speaker/Resource Person/Judge:**

S N	Country Name	Expert Name	Organization Name	Designation	Specialization	Contact No.	E-mail Id	Address	Major Areas where Amity can Collaborate with expert	CV of Expert (Yes/No)
1	India	Dr. L.H. Rathore	India Meteorological Department	Former Director General of Meteorology (DGM)	Weather and Vegetation with a special reference to AGROMETEOROLOGY	98110 57076	<a href="mailto:Lrathore@gmail.com">Lrathore@gmail.com</a>	Former Director General of Meteorology (DGM), IMD, New Delhi	Academic and R&D Activities. A Research Scholar (PT) is working with ACOAST/ACESH.	Yes
2	India	Dr. K.J. Ramesh	India Meteorological Department	Former Director General of Meteorology (DGM)	Numerical Weather Forecasting & National Disaster Management	80762 00494	<a href="mailto:Kiramesh2607@gmail.com">Kiramesh2607@gmail.com</a>	Former Director General of Meteorology (DGM), IMD, New Delhi	Academic and R&D Activities. A Research Scholar (PT) is working with ACOAST/ACESH.	Yes

**Criteria of Inviting Resource Persons/Speaker (Write a paragraph):**

**1. Dr. L.S. Rathore** is Permanent Representative (Ambassador) of India to World Meteorological Organization (WMO), United Nations. He is Chair, Inter-governmental Board for Climate Services (IBCS), WMO. He is Vice President, Commission for Agriculture Meteorology, WMO. He is also Chairman, Governing Council, SAARC Meteorological Research Centre, Dhaka. He made significant contributions towards improving the weather & climate prediction, particularly extreme weather events. He played a lead role in development of Agro-meteorological Advisory Service in India. He published more than 100 research papers, wrote 11 books and 41 book chapters. He has co-supervised 5 Ph.D. students from reputed institutions. He is recipient of over a dozen National awards for his contribution in the area of meteorology and service to the society. Currently, he is Member, Advisory Committee, National Disaster Management Authority, GOI. He is an International Consultant (ST4), The World Bank. He is President, Vigyan Bharti, Rajasthan, Member, Board of School, Earth Sciences, Central University Rajasthan, and Chairman, South Asia Forum on Agrometeorology.

**2. Dr. K.J. Ramesh** is Permanent Representative (Ambassador) of India to World Meteorological Organization (WMO), United Nations. He was Fellow of Indian Climate Congress. Chairman, Cloud Seeding Impact Evaluation Committee, Govt. of Karnataka. He is deeply involved in the Multi Hazard Mitigation Framework Development at the Department of Science & Technology. He implemented Cyclone and Flood Hazard Mitigation for Godavari, Krishna Rivers and Operations of Dams and reservoirs (World Bank Funded Activity) as Head, Disaster Management Unit, Government of Andhra Pradesh. He was Advisor of Atmospheric Science Services and Climate Change Research Programme Development, MoES, New Delhi. He was Member of the Indian Delegation for UNFCCC Negotiations on climate change related issues (2008-2016). Floods; Disaster Communication. He published, so far, over 50 papers in various national and international journals. Elected Fellow of the Andhra Pradesh Academy of Sciences (FAPAS). He has been Serving as Member Core Groups, National Disaster Management Authority (NDMA) for the Development of Guidelines in respect of Cyclones.

**2. Outcome of the Event with Time Lines (Proposed/Achieved)**

Envisaged Outcome	Tangible/Intangible	Achieved/Proposed	Target date & responsibilities (if proposed)	Details of outcome
<b>1. Outcome related to Academia Connect</b>				
a) Research Collaboration in the area of the application of AI/ML Techniques and air pollution modelling.	Tangible	Achieved	-	Research Publications.
b) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] &	-	-	-	Imparting joint guidance to a Research Scholar for his Ph.D. (Guide: Prof. Dr. P.C.S. Devara, AUH & Co-Guide: Dr. V.K. Soni, IMD)

Projects/Use of Instruments etc.			
c) Collaboration for Funded Projects	-	-	-
<b>2. Outcome related to Industry Connect</b>			
a) Placement	-	-	-
b) Collaborations for Research Papers	-	-	-
c) Collaborations & MOU for Research Guidance [PhD, PG & UG (summer training, Dissertation)] & Projects/Use of Instruments	-	--	-
d) Collaboration for Funded Projects	-	-	-
<b>3. Outcome related to Society Outreach</b>			
a) Benefit to society in terms of Health & Hygiene	NA	NA	NA
			The lecture partly covered the forecast of extreme weather events, health aspects vis-à-vis ambient air pollution.
b)	-	-	-

#### 4. Outcome related to Students Learning & Grooming

- To bring awareness in students about the functions or roles of World Meteorological Organization (WMO) in various facets of Meteorology and Allied Areas.
- Actions already taken or methods to be implemented on some of the key analysis techniques like Artificial Intelligence (AI) and Machine Learning (ML) for Big Data Applications and Forecasting.
- To expose the students and researchers to recent advances in ground-based and space-borne remote sensing techniques for Weather and Climate Analysis.
- Model skill, success rate, uncertainties, model calibration and validation with ocean-atmosphere data from ground-based, ocean-based platforms and geostationary and polar-orbiting satellites.
- Air Pollution/Air Quality Forecast models and Early Warning Systems, Vision Theatres, involving Advanced Weather Research and Forecasting (AWRF) models with microphysics, chemistry, and dynamics modules.
- Multi-platform Data availability, new data networks and simulation techniques, dialogues between scientific community and Policy makers for proper decisions by the Government.

#### 5. Any other

NIL

### 3. Event Report along with glimpses of the event (Photographs)

#### 3.1 General Introduction and Outlook of the Event:

The theme of this year's WMO day is "Early Warning and Early Action" with an emphasis on Hydrometeorological and Climate information for Disaster Risk Reduction. This is a unique theme

in the sense that every year, the theme focuses on a stand-alone or coupled phenomenon, but this year, it is some sort of an integrated outcome theme i.e. Early Warning and Early Action. The first part involves models and observations while the second involves mitigation/curbing processes, stakeholders and Policy Makers. The activity called “SERVICES” acts as a bridging block between warnings and actions. Thus, in other words, this year’s theme is a complex upcoming road map, involving both natural and anthropogenic activities of any country, more so for India.



**3.1 Inspiration & Objectives of the Event:** The principal objective of the webinar is to discuss the utilization and application of hydro-meteorological and climate information to reduce the disasters and risk reductions. Also, to discuss the advancements that have taken place in the modelling and observational techniques to inhibit to the maximum extent of the extreme weather conditions including the natural phenomena such as cyclones, Tsunamis and volcanic eruptions.

**3.2 Brief about the address/talk of speakers:** After the formal introduction by Dr. Kunal Anand, Prof. Dr. P.C.S. Devara, Director welcomed the dignitaries including Dr. Ashok K. Chauhan, Hon’ble Founder President Sir, Dr. Aseem Chauhan, Hon’ble Chancellor, Prof. Dr. P.B. Sharma, Hon’ble Vice Chancellor, Prof. Dr. Padmakali Banerjee, Hon’ble Pro Vice Chancellor, and the Guest Speakers of the Ceremony - Dr. L.S. Rathore, Former DGM and Dr. K.J. Ramesh, Ex-DGM. Prof. Devara also briefed about the background and academic/R&D achievements of Amity Centre of Excellence in Ocean-Atmospheric Science and Technology (ACOAST) & Environmental Science and Health (ACESH) at AUH since 2014-2015. This was followed by the Opening Remarks from Prof. Dr. Padmakali Banerjee. She talked about the extreme weather events such as floods and droughts and their connections with Water Resources and Management. Dr. Rathore talked about the current status of the weather and climate models and their latest improvements in recent times. He explained “Agrometeorological Processes and their

role in agriculture. Dr. Ramesh narrated about the current-status of Numerical Weather Forecast Models being used in the country for both south-west and north-east monsoon forecast. He also talked about various weather and climate data analysis techniques for the improvement of the existing models and network observations in both its density and quality. In his address by Dr. W. Selvamurthy, Hon'ble President, Amity Science and Technology Innovations Foundation (ASTIF) and Hon'ble Chancellor of Amity University Chattishgarh, talked about his association with WMO and highlighted the role of WMO in developing the Biometeorological techniques for delineating the role of meteorology in biological processes. In response to the suggestion of THIK-TANK raised by Dr. Ramesh, Dr. Selvamurthy suggested to prepare a white (Concept) paper highlighting the important research gaps in Meteorology and Climate, to reduce their uncertainties and thereby to increase the model accuracies at both National and Global level. Esteemed Prof. Dr. Ajit K. Nagpal, Chairman of Amity Pacific Forum, Middle East Initiative, Board of Governors and Healthcare Advisory Council explained the vision and mission of both politically and socially the impact of meteorology and climate on public health and medicines. At the end, Dr. A.A. Khan, Head, ACAPC delivered Volte of Thanks.

**3.3 'Take-Home-Message' for the Attendees:** All participants, students in particular, got a very important information on stand-alone and coupled processes between land, atmosphere and oceans and their combined influence on Climate System and Variability.

**3.4 Future plan for utilizing the contacts developed with the Invited Guests**

No doubt, the contacts developed between various experts attended the Workshop though this WMD celebration will play a vital role in strengthening further the ongoing research collaborations in some of forefront innovative areas such as pollution forecast, influence of atmospheric Boundary Layer (ABL), Upper Troposphere and Lower Stratosphere (UTLS) region, between AUH and IMD in Environmental Pollution and other allied areas of atmospheric and oceanic sciences.

**3.5 Budget of the Event: Nil**

**3.6 Details of Awards if Any: Nil**

Awardee Details	Award / Position / Recognition Secured	Title of Innovation/ Start-up Secured the Award / Recognition	Award/Recognition/ Achievement Received for
NIL	NIL	NIL	NIL

**3.7 List of Participants including Panel Members, Faculty and Students (Inside and Outside AUH):** List attached.

Endorsed by Director & Professor

