Three Day Online International Conference on
Aerosol, Air Quality, Climate Change and Impact on Water Resources and Livelihoods in the Greater Himalayas

(This International Conference is organised as a part of celebration of Golden Jubilee Commemoration Year of DST)

Organized by

Aryabhatta Research Institute of Observational Sciences (ARIES)

An autonomous institute under the Department of Science and Technology, Govt. of India), Nainital, Uttarakhand

In Collaboration with

Department of Physics

Hemvati Nandan Bahuguna Garhwal University (A Central University)
Srinagar, Pauri Garhwal, Uttarakhand

Venue

Aryabhatta Research Institute of Observational Sciences (ARIES)

Dates

14th -16th September, 2020

SCHEDULE

September 14, 2020		
Inaugural Session : 09:00 - 10:15		
TECHNICAL SESSION- 01 **Source apportionment in Indo-Gangetic Plain and Gangetic Himalayan Region** **Session committee:** **Chair : Dr Manish Naja** **Co-Chair : Dr Atul K Srivastava** **Rapporteur: Dr. Tushar Kandari**		
Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)		
10:15 - 10:35	Source Apportionment in the Indo-Gangetic Plain and Trans-boundary Pollution	Dr Philip Hopke University of Rochester and Clarkson University
10:35 -10:55	Multiphase Atmospheric Chemistry: From the molecular to the regional and global scales	Prof. V. Faye McNeill Departments of Chemical Engineering and Earth and Environmental Engineering, Columbia University, New York, NY 10025 USA
High Tea/Media Briefing: 10:55-11:20		
11:20 - 11:40	Atmospheric aerosols over the Himalayas: types, sources and transport dynamics	Dr Dimitris Kaskaoutis National Observatory of Athens Greece

11:40-12:00	Sensor-based Streaming Analytics and Near-Real Time source Apportionment of Air Pollution	Prof. S. N. Tripathi Indian Institute of Technology, Kanpur, India
12:00-12:10	Polluted aerosols escalating heating over the Indo-Gangetic plane for over a decade	Dr Rohini Bhawar Savitribai Phule Pune University
12:10- 12:20	Nitrogenous aerosols in Himalayas: concentration, sources and implications	Dr Hemraj Bhattarai Chinese University of Hong Kong (Hong Kong)
12:20 -12:30	Dominance of Biogenic Emissions in Aerosol-CCN Activation under Limited Anthropogenic Emissions over Eastern Himalaya, India	Monami Dutta, Bose Institute
12:30 -12:40	New Particle Formation and Growth to Climate-relevant Aerosols at a High Altitude Site in the Western Himalaya – Ranichauri	Mathew Sebastian, University of Hyderabad
12:40 -12:50	Optical and radiative characteristics of different aerosol species over the Indo-Gangetic Basin: Implication to Himalayan climate	Atul K Srivastava, IITM, New Delhi Branch
12:50 - 13:00	Size distribution of organic and elemental carbon during the winter season in Delhi	Akash Kumar Singh, JNU New Delhi
Lunch Break: 13:00-14:30		
TECHNICAL SESSION- 02 Atmospheric Aerosols, Aerosol Chemistry, Air Pollution **Session committee:** **Chair : Dr. U. C Dumka Co-Chair : Dr. Narendra Singh Rapporteur: Jaydeep**		
Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)		
14:30-14:50	Aerosol effects on microstructure and precipitation of deep convective clouds with a focus at the Himalaya foothills	Prof. Daniel Rosenfeld, Institute of Earth Sciences, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel
14:50-15:10	Tipping elements approach for forecasting onset and withdrawal of Indian Summer Monsoon: climate change and air quality impacts	Prof Elena Surovyatkina Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany; Space Research Institute of Russian Academy of Sciences, Moscow, Russian Federation Potsdam Germany
15:10-15:30	Studies of aerosols, ozone, and clouds from sky radiometer: Algorithms and observation results	Dr Pradeep Khatri, Center for Atmospheric and Oceanic Studies (CAOS), Graduate School of Science, Tohoku University, Japan
15:30-15:40	Variability of air quality and aerosol over Indian region during 2003-2012	Sanjay Kumar , BANARAS HINDU UNIVERSITY
Tea Break 15:40 – 16:00		
16:00-16:10	Real-Time Measurements of PM2.5 Oxidative Potential using Dithiothreitol (DTT) Assay in Agra during the COVID-19 lockdown period	Isha Goyal Dayalbagh Educational Institute, Agra
16:10-16:20	Source apportionment of PM10 in an urban industrial area using positive matrix factorization	PALLAVI KHOBRAGADE National Institute of Technology Raipur
16:20-16:30	Light Absorption Properties of Atmospheric Black Carbon over the Garhwal Himalayas and its Foothills	Ashish Soni, Doon University

16:30-16:40	Comparative study of Forenoon and Afternoon aerosol optical properties and radiative forcing over Varanasi	Bharat Ji Mehrotra BHU
16:40-16:50	Insights from intensive long-term observations of carbon aerosols and trace gases at the Central Himalayas	Priyanka Srivastava ARIES, Nainital
16:50-17:00	Evaluation of WRF (3.8.1) model for meteorology over central Himalaya	Jaydeep ARIES, Nainital
September 15, 2020		
TECHNICAL SESSION- 03 Climate change impacts on Himalayan Glacier and Monsoon over the Himalayas **Session committee:** **Chair : Prof. R. C. Ramola Co-Chair : Dr Suresh Tiwari Rapporteur: Priyanka Srivastava**		
Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)		
09:00 - 09:20	Absorbing Aerosols, Snow Albedo and Darkening of the Himalayan Cryosphere	Prof. Ritesh Gautam Environmental Defense Fund, Washington, DC, USA
09:20 – 09:40	Fog in the Indo-Gangetic Plain: The critical roles of subsidence and baroclinic activity	Vinay Kumar Texas A and M University, Kingsville, TX, USA
09:40 – 10:00	Response of Glaciers to Climate Change: A Study from Upper Alaknanda Basin, Central Himalaya	Prof. Harish Chandra Nainwal, HNB Garhwal University
10:00 -10:20	Vertical distribution of light-absorbing particles in glacier snow of the Sunderdhunga Valley, Northern India	Prof. Jonas Svensson, Finnish Metrological Institute, Helsinki, Finland
10:20-10:40	Simulation of black carbon, and other aerosol species over the Hindukush-Himalayan region and their impact on glaciers	Prof. Shubha Verma Indian Institute of Technology Kharagpur, India
Tea break: 10:40-11:00		
11:00 -11:10	Black carbon over a high altitude central Himalayan Glacier: Variability, transport, and radiative impacts	Sandeep K Indian Institute of Tropical Meteorology, Pune
11:10-11:20	Seasonal-variability of black carbon aerosols over the glaciers of Central Himalaya, India	Indira Karakoti Bohra Wadia Institute of Himalayan Geology, Dehradun
11:20-11:30	Thickness and volume estimation of Indian Himalayan glaciers using field based geophysical techniques : A brief review	Aditya Mishra Hemvati Nandan Bahuguna Garhwal University
11:30-11:40	Can elevated dust layers explain the altitudinal heterogeneity in snowmelt trends over western Himalayas?	Chandan Sarangi, Indian Institute of Technology, Chenni
11:40-11:50	Climate Change and changing behavior of water resources in different river streams of the Himalaya	Jagdish Chandra Kuniyal Govind Ballabh Pant National Institute of Himalayan Environment (GBPNIHE), Kosi-Katarmal- 263643, Almora, Uttarakhand
11:50 - 12:00	Glacier Retreat Analysis in the Context of Climate change impact over the Alaknanda basin	Dr Asha Thapliyal Uttarakhand Space Application Centre, Dehradun
12:00 - 12:10	Spatio Temporal Analysis of Glacial Lakes in the Jhelum basin, Kashmir Himalayas, India	Rayees Ahmed University of Kashmir

12:10 - 12:20	Simulation of NOX and ozone during lightning event in pre-monsoon season by WRF-Chem	Swagata Payra, Birla Institute of Technology Mesra
12:20 - 12:30	Contamination assessment of potentially toxic heavy metals in road dust deposited in different types of urban environment over Dehradun city, Garhwal Himalaya	Lalita Bisht, H.N.B. Garhwal University Srinagar Garhwal
12:30 - 12:40	Assessment of climate model simulated rainfall pattern based on satellite-derived estimates over the Indian Region	Sudip Kumar Kundu National Institute of Advanced Studies (NIAS), IISc Campus, Bengaluru
12:40 - 12:50	Identification and assessment of vulnerable indicators: a case study of northwestern Himalaya, India	Nidhi Kanwar GB-NIHE, Kosi- Katarmal, Almora, U.K., India
12:50 - 13:00	Variabilities in ozone over the Himalayan atmosphere: Role of precursors, meteorology, and dynamics	Prajjwal Rawat ARIES, Nainital
Lunch Break: 13:00-14:30		
TECHNICAL SESSION- 04 Growing air pollution over Indo-Gangetic Plains and Himalayan Glaciers, Network Measurements **Session committee:** **Chair : Dr Narendra Singh Co-Chair : Dr Alok Sagar Gautam Rapporteur: Dr Poonam Semwal**		
Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)		
14:30 - 14:50	PM-induced oxidative potential with particle chemical composition and sources: results from long-term measurements in Athens, Greece.	Nikolaos Mihalopoulos National Observatory of Athens Greece
14:50 - 15:10	Climate over the Himalayas	Prof. A. P. Dimri , J N U Delhi India
15:10 - 15:30	Atmospheric aerosols pathways and processes: IGP-Central Himalayas-Glacier	Rakesh Hooda, Finnish Meteorological Institute, Helsinki Finland
Tea Break 15:30 – 15:50		
15:50 - 16:00	Investigation of changes in Annual Precipitation cycle of the Jammu and Kashmir union-territory of North West Himalayan Region	Debangshu Banerjee, IIRS Dehradun
16:00 -16:10	Seasonal behaviour of Aerosol Optical Depth and Black Carbon in the northwestern and Central Himalayan regions, India	Prashant Kumar Chauhan, G.B. Pant National Institute of Himalayan Environment, Kosi-Katarmal, Almora
16:10 -16:20	Statistical modeling of particulate matter using ANN techniques over Indo Gangetic Plain using satellite AOD and meteorological parameters	Sameer Mishra, CSIR, NEERI
16:20-16:30	Statistical analysis of seasonal variation of solar radiation and meteorological parameters in Himalayan region	Mahima, Gurukula Kangri Vishwavidyalaya
16:30-16:40	Diurnal and seasonal variations in some Non-methane Hydrocarbons (NMHCs) over Nainital: The central Himalayan site	Mahendar Chand Rajwar, ARIES, Nainital
16:40-16:50	Aerosols Optical Depth during Fire events in Uttarakhand State Using Satellite Observations	Sunita Verma, IESD. BHU
16:50-17:00	Monthly PM10 concentration pattern over Delhi: A Remote Sensing Perspective	Avinash Chand Yadav, Indian Institute of Tropical Meteorology, Pune

September 16, 2020

TECHNICAL SESSION- 05 **Extreme Events (Dust Storms, Cloud Burst, Rainfall, earthquakes)**

Session committee:

Chair : Dr. J C Kuniyal **Co-Chair : Dr U. C. Dumka** **Rapporteur: Mahendar Singh Rajwar**

Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)

09:00 - 09:20	Trace gases studies over the Central Himalayas and surrounding regions	Dr Manish Naja , ARIES, Nainital
09:20 -09:40	Chemical characteristics and optical properties of aerosols in the Himalaya	Kirpa Ram, Banaras Hindu University India
09:40 -10:00	Aerosol loading over the Indo-Gangetic Plains and its link to changing climate and land use over the Thar Desert and Rajasthan	Prof. V. Vinoj, Indian Institute of Technology Bhubaneswar India
10:00-10:20	Brown Carbon Aerosols Characteristics over the Indo-Gangetic Plain	Dr Neeraj Rastogi, P R L Ahemadabad, India
10:20-10:30	Aerosol-Lightning association in humid, semi-humid and arid regions over Northern India	Manoj K. Srivastava, Banaras Hindu University, Varanasi
10:30-10:40	Investigation of heavy rainfall characteristics over central Himalaya: A case study using field observation and numerical modeling	Rajendra Rawat , GB Pant National Institute of Himalayan Environment
Tea Break: 10:40-11:00		
11:00-11:20	Climatological aspects of Himalayan region: An emphasis to the transport of pollutants	Dr Narendra Singh, ARIES Nainital
11:20-11:40	Invited Talk	Dr V K Soni
11:40-11:50	Assessment of Water Quality of High Altitude Snow-Fed Lake (Hemkund) Using Water Quality Index (WQI) and Benthic Macro-invertebrate Based Biotic Index	Akash Deep, HNBGU
11:50-12:00	Ozone Variations in a Central Himalayan Valley-Seasonal Changes and Impact of Biomass Burning	Dr. Kiran Sharma, Dehradun
12:00-12:10	Rainfall Variability Analysis and its Impact on Farming Systems in the Northern Mountainous Regions of India	Prof. Vishwambhar Prasad Sati, Mizoram University (A Central University), Aizawl
12:10-12:20	Radiative implications of severe dust storms over the Indian region	Shani Tiwari, CSIR - NIO, Dona Paula, Goa
12:20-12:30	Water harvesting initiative for an astronomical site in Central Himalayas	Tarun Bangia, ARIES, Nainital
12:30-12:40	Impact of Anthropogenic Disturbances on Water Springs inside Van Panchayat Forest in Uttarakhand	Vivek Joshi, Doon University
12:40-12:50	Understanding the sources of airborne fine and coarse particulates in Varanasi, India	Tirthankar Banerjee, BHU
12:50 - 13:00	Ambient air quality and Black carbon (BC) behaviour in pre- and during COVID -19 at Kosi- Katarmal, Uttarakhand	Sheetal Chaudhary, G.B. Pant National Institute of Himalayan Environment, Kosi-Katarmal, Almora

Lunch Break: 13:00-14:30

TECHNICAL SESSION- 06 Winter/Summer Crop burning and impact on Himalayan Resource, Coupling of Ocean-Land and Himalayan, Application of geospatial Techniques Session committee: Chair : Prof. Ranjit Kumar Co-Chair : Dr Narendra Singh Rapporteur: Prajwal Rawat		
Each Invited talk : 20 Minutes (15+5) and Contributory Talk: 10 Minutes (7+3)		
14:30 - 14:40	Quantification of fractional aerosol iron solubility over the coastal Arabian Sea.	Ashwini Kumar, CSIR-National Institute of Oceanography, Goa
14:40 -14:50	Characteristics of extreme rainfall events during the southwest monsoon period and their association with global climate indices	JAMSHADALI V H, Govt. Engineering College Sreekrishnapuram, Palakkad, Kerala
14:50-15:00	THE RELATION BETWEEN AEROSOL OPTICAL DEPTH AND LIGHTNING OVER HILLY REGION: UTTARAKHAND, INDIA	ABHISHEK JOSHI, Hemwati Nandan Bahuguna Garhwal University, Srinagar Garhwal, Uttarakhand
15:00 -15:10	Black Carbon emissions from residential biomass burning for different fuels and burning conditions: A biomass burning experiment	Parminder Kaur, Tripura University, Agartala
15:10-15:20	Enhancement of aerosol loading over the sensitive the Hindu Kush Himalayan (HKH) region	Shantikumar S. Ningombam, Indian Institute of Astrophysics, Bangalore
15:20-15:30	Solar energy assessment in the Himalayan region during the Covid-19 lockdown using Earth Observation technologies	Akriti Masoom, IIT Roorkee
Tea Break: 15:30 -15:40		
15:40-15:50	Geomorphology and Landforms in Changme Khangpu Basin, North Sikkim, India	Amrita Singh, Sikkim University
15:50-16:00	Chemistry and dynamics of reactive trace gases over India	Meghna Soni, PRL
16:00-16:10	Perception of climate change and its impacts on the livelihood of Gaddis residing in Bharmour, Chamba (Himachal Pradesh).	Alpy Sharma, Panjab University Chandigarh
16:10-16:20	Significance of volatile organic compounds, oxides of nitrogen and carbon monoxide in surface ozone formation at Dayalbagh, Agra	NEELAM BAGHEL, Dayalbagh Educational Institute, Agra
16:20-17:00	Valedictory Session and End of the Conference	Prof. R. C. Ramola HNB Garhwal University

End

Stay Home - Stay Safe