



National Physical Laboratory(NPL)- CSIR dedicates the first “Pristine air-quality monitoring station at Palampur” to the Nation

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National Physical Laboratory (NPL) has established an atmospheric monitoring station in the campus of Institute of Himalayan Bioresource Technology (IHBT) at Palampur (H.P.) at an altitude of 1391 m for generating the base data for atmospheric trace species & properties to serve as reference for comparison of polluted atmosphere in India. At this station, NPL has installed state of art air monitoring system, greenhouse gas measurement system and Raman Lidar. A number of parameters like CO, NO, NO2, NH3, SO2, O3, PM, HC & BC besides CO2 & CH4 are being currently monitored at this station which is also equipped with weather station (AWS) for measurement of weather parameters.

This station has been dedicated to nation today by Dr. D.K. Aswal, Director, NPL and Dr. Sanjay Kumar, Director, IHBT. A number of senior scientist present included Dr. R.K. Kotnala, Head, Environmental Sciences and Biomedical Metrology Division of NPL, Mr. M.P. Goyal, Dr. S.K. Vats, Dr. Brij Lal, Dr Sanjay Uniyal, and large number of research students. Speaking on this occasion, Dr. Aswal stressed upon the need to promote quality measurements in atmospheric sciences which would help in developing appropriate policy measures for societal goods. He also underlined the need to develop synergies & interactions between all the agencies undertaking atmospheric monitoring for this purpose. Dr. Sanjay Kumar in his inaugural speech mentioned the need for setting up of such state of art monitoring systems in Himalayan region to assess the vulnerability of region's sensitive ecosystem due to climate change & pollution. During the function, Dr. R.K. Kotnala appreciated the collaboration between the CSIR-NPL & CSIR-IHBT in setting up this state of art monitoring facility which will serve as reference station. Dr. Chhemendra Sharma provided the perspectives and objectives of the CSIR's XII Five Year Plan Project 'AIM_IGPHim' under which this facility has been established and thanked the colleagues of NPL & IHBT for their contributions. The Council of Scientific & Industrial Research (CSIR) has funded this project under its XII Five Year Plan projects.

In India, air quality parameters are mostly measured in industrial and residential areas, however, data for air quality of pristine atmosphere is not available in India. NPL's station will contribute to fill this important gap. The NPL's station will also serve as a base station for inter-comparison of air quality monitoring equipment being used in India to improve quality of monitored data in India. As the issues of atmospheric pollution has assumed a significant proportion of social concerns, it is utmost important to ensure quality of atmospheric monitoring so as to devise appropriate policies for abatement of air pollution based on sound scientific data for their effectiveness.

NPL has undertaken activities to contribute in improving the quality of atmospheric monitoring through providing traceable measurement facilities to various stake holders in the country and the NPL 's monitoring station is an important step in that direction. In addition, NPL is also developing calibration standards for different pollutant gases and PM10 samplers for use in atmospheric monitoring.



The pristine CAAQMS station houses calibrated state-of-the-art-equipment for the continuous measurements of ambient and greenhouse gases (CO, NO, NO2, NH3, SO2, O3, PM1, PM2.5, PM10, hydrocarbons, black-carbon, CO2 & CH4), and weather parameters. Because of Palampur's pristine air, and the capability of the new monitoring station for detection of small amounts of pollutants, the impact of faraway pollution sources can be measured precisely. The data taken at this station during past one year shows that the pollution levels are far below the limits of National Ambient Air Quality Standards (NAAQS). In addition, this new station has the experimental facilities to investigate the aerosol/cloud interactions, and such investigations would be helpful in generating a better understanding of the Earth's climate system.

The data generated by pristine CAAQMS station at Palampur will act as background data for the measured pollution at various cities in the country. The generated background data will be shared with different pollution control boards and agencies in the country so that the more precise pollution mapping traceable to standard values can be done, which in turn, would assist policy decisions for the abatement of air pollutants.

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