

# Experimental Investigation of Traffic Pollution in Ambient Air, Coimbatore City, India

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**Abstract:** Dispersion of air pollutants in the ambient air, biological molecules present in the ambient air or other toxic materials emitted into the earth's atmosphere possibly cause severe disorders. In the recent era, pollution in the ambient air has become a major environmental issue because of enhanced anthropogenic activities. The present work aims to investigate the traffic pollution in the ambient air caused by the movement of vehicles. The major arterial road (Trichy Road) in the Coimbatore city was divided into five zones and the movement of vehicles were surveyed during the peak flow and average flow of vehicles. Ambient air pollutants such as particulate matter (PM 10 & 2.5), Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) and Carbon Monoxide (CO) were monitored using respirable dust sampler and were compared with the National Ambient Air Quality (NAAQ) standards. The result showed that the emission of particulate matter (PM 10 & 2.5) was above the Central Pollution Control Board (CPCB) standards in two locations.

## REFERENCES

- [1] R. Saravanakumar, S. Sivalingham and S. Elangovan, "Assessment of Air Quality Index of Coimbatore City in Tamil Nadu", Indian Journal of Science and Technology, Vol 9 (41), 2016
- [2] R. Afroz, M.N. Hassan et al, "Review of air pollutant and health impacts in Malaysia", Environmental Research 92(2):71-7, 2003
- [3] A.J. Ghio, M.S. Carraway, M.C. Madden, "Composition of air pollution particles and oxidative stress in cells, tissues and living system", Journal of Toxicology and Environmental Health, 15(1):1-21, 2012
- [4] P.K. Bhuyan, P. Samantray, "Ambient air quality status in Choudwar area of Cuttack District, India", International Journal of Environmental Science, 1(3):343-356, 2010
- [5] N.C. Kavuri, K.K. Paul, "Chemical characterisation of ambient PM 10 aerosol in street city, Roukela, India", Research Journal of Recent Science 2(1): 3-8, 2013
- [6] G. Jayaraman, "Air pollution and associated respiratory morbidity in Delhi", Health Care Manage Sci, 11(2):132-138, 2008
- [7] P. Mamta, J.K. Bassin, "Analysis of ambient air quality using air quality index- a case study", International Journal of Advance Engineering Technology, 1(2):106-114, 2010
- [8] N. Singh, M. Yonum et al, "Monitoring of auto exhaust pollution by road side plant", Environmental Monitoring Assessment, 34(1): 13-25, 1995
- [9] Zlauddin, N.A. Siddiqui, "Air quality index- a tool to determine ambient air pollution", Pollution Research, 25(4): 885-887, 2006
- [10] A.C. Pandey, B.P. Murthy, R.R. Das, "Some aspects of air pollution climatology of Raipur and Korba- India", Indian Journal of Science and Technology, 1(5):1-8, 2008