

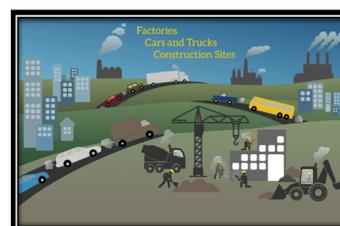
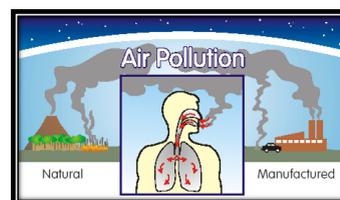


Editorial

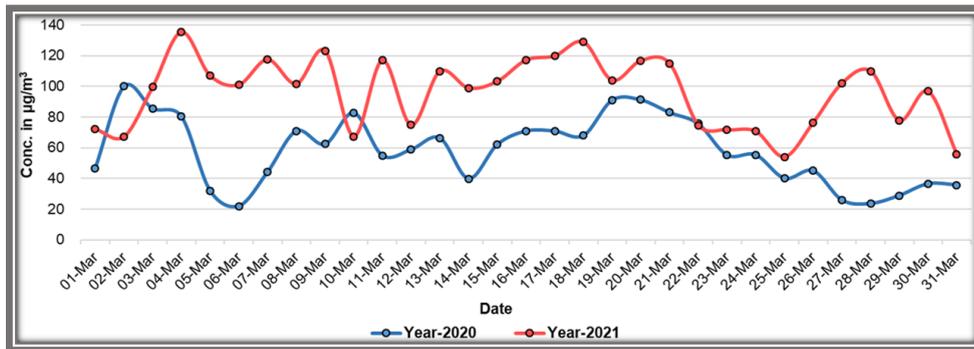
Interlinkages between Outdoor & Indoor Air Quality - The need for Indoor Air Quality standards

Dear Readers,

We cannot live without breathing air. Our respiratory system works optimally in clean air. I grew up in the 1950s in a British steel town with smelting furnaces constantly belching out pollutants, coal burning for domestic heat and chimney smoke periodically produced dense smog that even killed people. Cigarette smoking was also a widespread source of indoor air pollutants. The British Government Clean Air act of 1956 regulated pollution from coal burning and with time this pollution declined. Today there is much less visible air pollution from coal burning and from heavy industry, but that doesn't mean that air quality has improved so much that it is healthy. On the contrary, air quality can still be poor but the nature of the pollutants has changed. Pollution from the exhausts from gasoline engines and from diesel engines has created a different mix of polluted outdoor air, with more NO_x and finer respirable particles and a range of volatile organic compounds. Fly into any major city in the world and as you come in to land you will see a brown/orange layer of pollution (NO_x and particles) covering that city. The finer airborne particles, particularly those < 2.5 microns in diameter, are so small that they can enter deep into the respiratory tract, and ultrafine particles <1 micron can penetrate the alveoli of the lungs and enter red blood cells causing cardiovascular disease. Most indoor air originates outdoors. How we ventilate homes for cooking and heating affects pollutant exposures. The heating, ventilating and air conditioning systems commonly used in many modern buildings rely on using outdoor air to dilute the contaminants generated indoors. But this doesn't work if outdoor air is heavily polluted. And while cigarette smoking has declined, there has been a dramatic rise in the use of synthetic products that release various volatile organic compounds into the air inside buildings. Each year air pollution causes 1 in 5 deaths; over 8 million people dying prematurely. Public health has been dramatically improved by regulating food and water quality. Now it's time to invest resources in seriously researching and regulating air quality.



Air Quality Trend for Delhi: One of the Most Polluted cities in the World



March 2021 was observed with 38% increase in PM_{2.5} concentration level, as compared to March 2020

Source: CPCB



CERCA is pleased to announce our **Monthly Lecture Series** for 2021-2022. From air pollution to climate change, CERCA virtual lecture series spotlights a range of contemporary issues while providing a platform for renowned speakers from around the world. Due to restrictions imposed by the ongoing pandemic, these lectures would take place virtually.

The second eminent speaker in the series is Prof. Emer. Alan Hedge. He has been a Professor for over 40 years. He was a founding member of the International Association of Indoor Air Quality and Health, a Fellow of the Human Factors and Ergonomics Society (U.S.A.), of the International Ergonomics Association, of the Institute of Ergonomics and Human Factors (U.K.), a certified Professional Ergonomist and a Chartered Ergonomist (C.ErgHF). He is the Environmental Design Representation for the International Ergonomics Association. He is also an Honorary Research Fellow at CERCA. He would speak on **“Airborne Disease Transmission: What we have learned because of COVID-19”**

Date: April 2, 2021
Time: 6:30 PM, IST



CERCA Lecture Series, March 5, 2021 at 4:30 PM

Expert talk by Prof. Kalpana Balakrishnan Ph.D., FAMS on the topic “Just a Pair of Lungs: The Challenge of Seamless Air Pollution Exposures in India”. She talked in detail about the challenges which are being faced in creating/designing healthy breathing spaces w.r.t. India.

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CERCA featured in Rajya Sabha TV

CERCA featured in weekly science monitor program by Rajya Sabha TV focusing on from 15:39 to 21:12 time duration in the linked episode.

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How Climate Change May Affect Your Health

Jane E. Brody; Personal Health columnist for The New York Times

In this article the writer says that no matter where you live or how high your socioeconomic status, climate change can endanger your health (physical and mental). Not only children, but anyone with asthma can experience life-threatening attacks when pollution levels soar. A recent study in JAMA Neurology of more

than 18,000 Americans with cognitive impairment found a strong link between high levels of air pollution and an increased risk of developing dementia.

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Crop Fires and Cardiovascular Health

Prachi Singh, Ambuj Roy, Dinka Bhasin, Mudit Kapoor, Shamika Ravi, Sagnik Dey

- The impact of exposure to biomass burning events on the prevalence of hypertension.
- Adjusted odds ratio of hypertension among individuals living in areas with high intensity of biomass (HIB) burning is 1.15.
- Elimination of HIB would prevent loss of 70 to 91 thousand disability adjusted life years (DALYs) every year.

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Effects of roadside green infrastructure on particle exposure

Yue-Ping Jia, Kai-Fa Lu, Tie Zheng, Xiao-Bing Li, Xin Liu, Zhong-Ren Peng, Hong-Di He

- Analysis of effects of green infrastructure on pedestrian-cyclist particle exposure.
- Green infrastructure exhibits limited effects on near-road air quality improvements.
- Vegetative barriers impede particle dispersion and elevate exposure on pathways.

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CERCA in Circulation



Ambient air pollutants contribute to spread of SARS-CoV-2 infections

There is emerging evidence to suggest that exposure to ambient air pollutants, especially PM_{2.5} and NO₂, contribute to the spread and virulence SARS-CoV-2 infections, said Health Minister Harsh Vardhan on Saturday, while inaugurating the new green campus of Indian Council of Medical Research's (ICMR) National Institute for Research in Environmental Health (NIREH), at Bhopal.

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Ban on diesel generator lifted in Delhi-NCR

Central Pollution Control Board (CPCB) has lifted the ban on use of diesel generators sets in Delhi, Ghaziabad, Gurugram, Noida, Greater Noida and Faridabad after considering the prediction of better air quality in the coming days. The board has directed Delhi Pollution Control Committee (DPCC) and state pollution control boards to take stringent action with emphasis on hotspots.

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Sandstorm in Beijing

The poor air quality was due to a sandstorm from northern Mongolia, carried south by the wind and reducing visibility in Beijing to less than 1000 meters, state media reported. Pollution in the city was at “hazardous” levels, according to air quality monitoring website Aqicn. It said level of PM₁₀ large particulate matter were nearly 20 times the World Health Organization’s recommended daily maximum exposure.

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New climate change regulations in U.S.

The Center for Biological Diversity(CBD) and [350.org](#) initially petitioned EPA in December,2009 to use the landmark environmental law to set National Ambient Air Quality Standards (NAAQS) for GHG emissions. Maya Golden-Krasner, deputy director of the Climate Law Institute at the CBD, said that the NAAQS program is the strongest and most far-reaching Clean Air Act tool for this work.

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