

Help people monitor their own air quality to save lives, say pollution experts

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Graphical abstract. Credit: *Sustainable Horizons* (2024). DOI: 10.1016/j.horiz.2023.100086

Empowering the public to monitor pollution in their communities could lead to cleaner air, say researchers from the University of Surrey.

During a five-month study, scientists from Surrey's Global Centre for Clean Air Research (GCARE) worked with volunteers from Zero Carbon Guildford to create a new way of monitoring [air quality](#) in [real-time](#). The data made the public more aware of pollution levels. The team hopes similar projects can empower communities to improve their air.

The team installed ten [low-cost sensors](#) in the Zero Carbon Guildford

building, a large public space in the town center. The public had asked for live air pollution data, which researchers presented using a newly designed system. Emojis represented the levels of pollution, from "good" to "very high."

Professor Prashant Kumar, Director of the Global Centre for Clean Air Research at the University of Surrey, said, "Rather than study them from afar, we asked the [local community](#) what they wanted to know. We designed this research with them and helped them understand how to improve their air quality. We need more work like this. When scientists, public bodies and citizens come together, they can create a healthier environment for all."

Researchers found that large gatherings led to more dust in the air and more CO₂, thanks to more people breathing it out. At peak times, high air pollution in the street outside led to a rise in smaller particles inside the building, too.

Members of the public then got tips on how to improve air quality through an interactive quiz.

Professor Kumar said, "We found that large gatherings can worsen the air quality indoors, and pollution outside can find its way in. But knowledge is power. Our study helped people find better ways to ventilate their homes and workplaces—improving air quality and improving their health."

Ben McCallan, former chair of Zero Carbon Guildford and co-author of the study, said, "Polluted air causes around 7 million premature deaths a year. This collaborative work is a leading example of how to help local communities understand the situation where they live and work. This empowers them to solve their own air quality challenges."

"Our approach does not cost much, but could transform public health for millions."

The research is [published](#) in the journal *Sustainable Horizons*.

More information: KV Abhijith et al, Improving air pollution awareness of the general public through citizen science approach, *Sustainable Horizons* (2024). [DOI: 10.1016/j.horiz.2023.100086](https://doi.org/10.1016/j.horiz.2023.100086)

Provided by University of Surrey

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