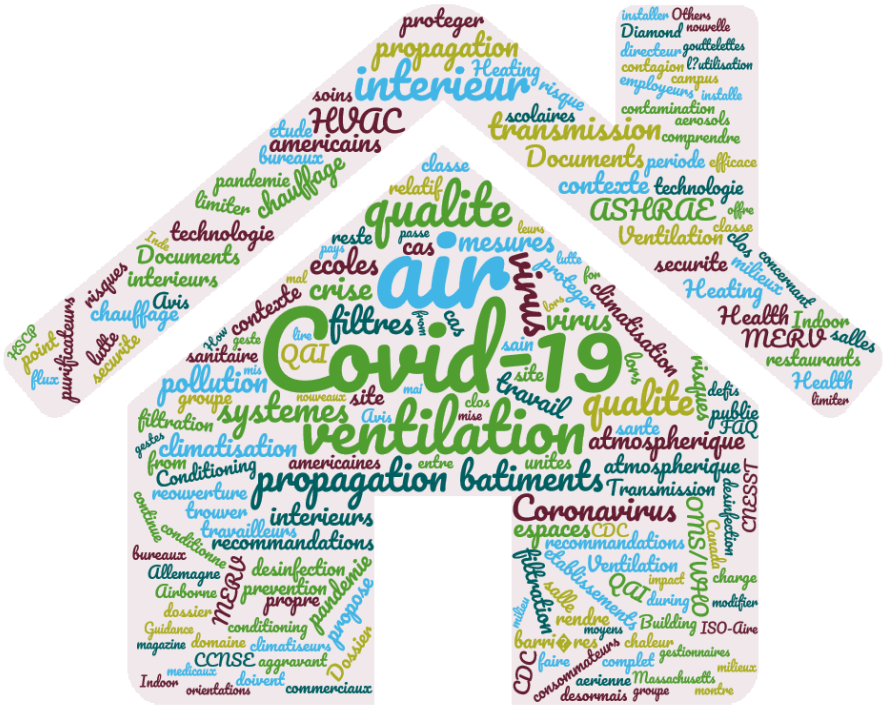

Bulletin de veille AéroCovid
N°136 – 22/04/2026

Objectif : *Air intérieur, ventilation, climatisation et propagation du Covid-19*

La validation des informations fournies (exactitude, fiabilité, pertinence par rapport aux principes de prévention, etc.) est du ressort des auteurs des articles signalés dans la veille. Les informations ne sont pas le reflet de la position de l'INRS. Les éléments issus de cette veille sont founis sans garantie d'exhaustivité.

Les liens mentionnés dans le bulletin donnent accès aux documents sous réserve d'un abonnement à la ressource.

Les bulletins de veille sont disponibles sur le portail documentaire de l'INRS. L'abonnement permet de recevoir une alerte mail lors de la publication d'un nouveau bulletin (bouton « M'abonner » disponible après connection à son compte).

Google Scholar, Lens et WoS

Utami, S. S., Baskara, S. A., Tenggara, A. P.

Air Movement Simulation and a Walkthrough Survey to Simply Evaluate the Air Quality of a Dental Hospital.

Innovation in Green Building and Infrastructure 2026

The use of air conditioning system in dental hospitals creates a higher risk of airborne infection due to the amount of aerosol release form the patient's mouth. Air suction positioned close to the patient seat are necessarily. The effectiveness of the system in reducing the airborne infection risk depends on how the room ventilation for fresh air exchange works. A walkthrough survey was conducted in the RSGM UMY dental hospital. The objective data, which consists of temperature, humidity, airflow, and CO2 levels, were collected using a handheld measuring instrument. Rooms with mechanical ventilation systems are in good indoor air comfort with an average temperature of 26 ℃ and average humidity of 71% based on the standards. However, the effectiveness of the ventilation system in reducing airborne infection risk is not yet measurable. This paper also proposed using computational fluid dynamic simulation as a preliminary technique following the walkthrough survey. The air velocity and the particle movement created by the ventilation system was evaluated.

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Sobirin, I., Pratama, T. O., Faridah, Suroso, D. J., Ridwan, M. K., Siddiq, N. A.*, et al.*

Design and Construction of Measurement Device for Ventilation Rate and Airflow Direction in Living Space.

Innovation in Green Building and Infrastructure 2026

Ventilation control within interior spaces helps in alleviating the spread of airborne diseases. This research presents a new device design that can effectively measure the ventilation rate and detect airflow direction efficiently in household spaces. The device incorporates twin Mass Airflow (MAF) sensors based on hot wire anemometry. These sensors are mounted strategically within a 10 cm long PVC pipe to detect bidirectional airspeed. They are connected to an Arduino Uno controller, and the system integrates the sensor data to calculate the ventilation rate in liters per second (L/s) by multiplying the air speed with the pipe's cross-sectional area. Experimental observation indicates the reliability of the system in having a mean error rate of 0% when capturing velocity, precision as a measure of standard deviation of 0.1 m/s, freedom from hysteresis error, and a sensitivity of 1.4 V per meter per second (V/(m/s)). Second, the two-sensor design facilitates the effective measurement of airflow direction and offers an important dimension of the dynamics of indoor air motion. This research advances the technical frontiers of environmental monitoring. It provides a valuable tool for public health initiatives that aim to control the transmission of infectious aerosols in highly populated indoor settings.

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