

Study of airborne transmission of COVID-19 will help reopen large recreational events

6 May 2021, by Judy Wing



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A new Loughborough University-led study will create clear guidance on how to design and operate non-domestic buildings to minimize the risk of airborne transmission of COVID-19, and other viruses.

The government funded AIRBODS (Airborne Infection Reduction through Building Operation and Design for SARS-CoV-2) project will help get large-scale events back up and running, with trials currently taking place at several 'test' venues including the O2 arena and Wembley Stadium.

Data collected from a nightclub event in Liverpool and the Crucible's Snooker World Championship is already being analyzed.

The 18-month study is being led by Loughborough's Professor Malcolm Cook, in partnership with University College London, the University of Cambridge, the University of Nottingham, the University of Sheffield and London South Bank University.

Inadequate ventilation has been highlighted as a

risk factor in terms of the possible airborne [transmission](#) of COVID-19 in buildings. AIRBODS aims to quantify the risk of this transmission through a combination of experimental work, measurement of environmental factors in buildings, and computer modeling.

The team are currently monitoring the [indoor air quality](#) and the movement of air at different locations around the test venues to try and understand the impact of ventilation, and then relate this to the number of people present at an event and the microbiological analysis of surfaces and air around the venue.

This data will enable the researchers to determine a Relative Exposure Index. Although this is not an absolute measure of the risk of transmission, it will enable building managers to gauge the risk of exposure relative to a benchmark case. The study will also provide advice and guidance on what ventilation measures can be taken to mitigate risk.

Speaking about the research, Professor Cook said: "Getting our lives back to some sense of normal following the pandemic is a huge challenge and doing it in a safe and measured way even more so.

"The large-scale events industry has been shut down for over a year. The work we are doing will help get these types of events and venues back up and running in a safe way, providing scientifically proven information and advice on ventilation and [building](#) management, to reduce the risk of airborne transmission of COVID-19, and other viruses, as much as possible.

"But it will not only benefit this sector, it can be used in all non-domestic settings, including healthcare, education and retail. Our approach to the research will also mean the knowledge and tools we generate will be relevant for the mitigation of a wide range of airborne hazards across the spectrum of indoor environments for many years to

come.

"The data we have already been able to collect from the events in Liverpool and Sheffield is proving very interesting and we look forward to learning as much as we can from it."

Provided by Loughborough University

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