

“The misinformation about SARS-CoV-2 not being an airborne virus has significant immediate implications and was the trigger for me to act”

Aerosol physicist Lidia Morawska calls for long-term measures to combat COVID-19 pandemic

Richard Phillips, Gary Alvernia
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The *World Socialist Web Site* spoke last week with Lidia Morawska, an acclaimed figure in the interdisciplinary field of air quality and its impact on human health.

Based in Brisbane, Australia, she is currently a Distinguished Professor at the School of Earth and Atmospheric Sciences at Queensland University of Technology (QUT) and director of the International Laboratory for Air Quality and Health at QUT. A long-standing collaborator and advisor to the World Health Organization (WHO), she co-chaired the group responsible for the WHO Air Quality Guidelines.

Morawska is also co-director of the Australia-China Centre for Air Quality Science and Management, an Adjunct Professor at the Jinan University in China and a Vice-Chancellor fellow at the Global Centre for Clean Air Research at the University of Surrey in the United Kingdom.

The recipient of numerous international awards for her scientific work, Morawska was included on *Time* magazine’s 2021 list of the 100 most influential people for the key role she played in highlighting the airborne spread of COVID-19 and assembling the data that convinced the WHO to change its previous position that coronavirus was not an airborne disease.

The following is an edited version of the discussion with Professor Morawska.

World Socialist Web Site: Could you speak about the school reopenings in Australia and elaborate on some of your concerns?

Lidia Morawska: I was speaking not just about the school reopenings but the indoor air quality situation in schools. We’re still in the pandemic right now and so the main focus is on infection control and other measures to minimise infection risk.

Let’s make a comparison with a leak from the ceiling during a storm. When this happens, you get a bucket to collect the water, but in the longer term you must fix the roof. Whatever we are doing now to stop the risk of infection in schools, we must realise that these are emergency measures and not a long-term solution.

For example, I’ve seen a media report today about the situation in schools in Western Australia. The temperatures are going to be close to 40 degrees Celsius and the kids are apparently on the verge of dehydration.

The Department of Education is advising parents to give their kids bottles so they have water with them all the time, because to lower the risk of infections they advise the windows to be opened and to not use the air conditioners. The risk of infection is reduced, but the kids are suffocating

from the heat.

Unless this whole issue of indoor air quality in classrooms is addressed holistically, then we are targeting just one or another issue. There are many other examples.

Let’s take portable air cleaners that are based on HEPA filters. If the windows must be closed—maybe it’s too hot outside—an air purifier will do a good job if it’s an appropriate one in terms of size in relation to the size of the venue. It will clear the virus-laden particles, but because there’s no ventilation, the carbon dioxide emitted by the kids will accumulate and they’ll be sleepy and lethargic, which is not a perfect situation when we want them to learn and be sharp. These are just a few examples of the fact that the issue has to be approached holistically.

WSWS: What’s your response to what has generally occurred in Australia and that there are different rules for different states?

LM: Every state is its own kingdom and does different things, and they don’t necessarily announce exactly what actions are taken. The first announcement came from the Victorian state in September with a package of close to \$200 million for ventilation in schools. It sounded like a very comprehensive package, and they looked at the whole picture of air quality in schools, including ventilation monitoring using CO2 meters, air purifiers and other measures.

But over time there were only bits and pieces of information from other states, often through the media from spokesmen for departments of education responding to questions from parents or the community in general. We weren’t really being given the whole picture.

I know the Queensland Department of Education started doing something but can only comment on what I saw with the back-to-school announcement, which came about a week before the schools were to reopen. It was very general and didn’t say anything much about the monitoring of CO2.

One statement was about wearing masks when the kids were standing or walking, but not when sitting. This particular rule was introduced earlier by different jurisdictions or different organisations in Queensland and has no scientific background whatsoever. It is not whether you are standing or sitting, but whether you are vocal or not.

The situation in our local church was that if people were standing and listening they put their masks on, but not when they were sitting and singing, which produces the highest emission rates. There’s very little

science there. These are just examples.

WSWS: We're now in the "learn to live with it" policy framework, with claims that Omicron is not as dangerous and therefore all sorts of basic health and safety measures are being lifted. What do you think of this and how does ventilation fit into this regime?

LM: Firstly, the question of ventilation really hasn't yet entered any action level, so it's not a question of lifting or changing regulations. We are lucky that Omicron doesn't have as severe consequences as the previous variants but whether it will disappear completely or not, we don't know. Maybe it will, as some predict, stay with us and be like many other respiratory infections, but how many times a year are we down with cold or flu and how many people die a year of flu?

How much do respiratory infections cost Australia? It's a lot, and so it's not just an issue of what's going to happen with Omicron, whether it disappears or not with this pandemic.

We knew about the importance of ventilation before the pandemic and the need to remove viruses or pathogens from the air. But the lessons are hard learnt if we don't do anything about it now because we'll be back to where we were before.

Instead of protecting people, we, meaning governments, are just putting our heads in the sand and pretending the issue doesn't exist.

WSWS: Professor Guy Marks had a good term for this. He called it "magical thinking." Acclaimed scientists like yourself and others have consistently pointed out that this approach is producing a disaster. If it's not Omicron, then it will be another variant, because lifting basic health measures provides an opening for many more mutations.

LM: Yes, but even if we are lucky and there's no worse variant than Omicron, what I'm stressing is that we have respiratory infections all the time but nothing whatsoever is being done about it. We have the significant issue of inadequate indoor air quality without ventilation, which causes lots of health problems, and impacts on academic performance of children.

It's not just this pandemic or particular variant, but that we're not doing anything about issues that are severe risks for us as a society.

WSWS: Yes, we have chronic lung diseases, CRPD, asthma bronchiectasis, and the trigger for people coming to hospital with serious lung infections can often be things like influenza, which is already a severe burden on hospitals. A few years ago, the hospital system in Queensland was almost completely overwhelmed by an influenza outbreak.

In July 2020, you were the lead author of an open letter calling on the WHO to recognise SARS-CoV-2 as being a virus transmitted through the air. The WHO and other medical authorities had either denied or were very slow to accept this. What was the impact of this denial?

LM: It was simply significantly more cases and significantly more deaths. That's why, at the very end of March 2020, when I saw the tweet by the WHO director general saying that the virus is not airborne, that I decided to do something.

This was not an academic discussion. Let's say, for example, that there is an academic discussion about gravitational waves, and I am by no means trying to undermine the significance of this, or any other area of research, but that particular issue could be discussed and resolved over a century. The misinformation, however, about SARS-CoV-2 not being an airborne virus has significant immediate implications and so this was the trigger for me to act.

I remember it vividly. I was speaking in the evening with a colleague in Italy on the last Saturday of March, and Italy was the European epicentre of infections at that time. There were a significant number of deaths in Italy, including among medical professionals, nurses, doctors and so on.

My colleague, who is from the engineering field, works closely with the medical community and he said these people were doing everything by the book. They know how to put on proper protection equipment—they do

what they're told to do, and they do it properly—and yet they're dying. They were dying because the virus is airborne.

He suggested that we write to the Italian authorities and maybe they'd listen. I was very sceptical that they would listen to two lone scientists and suggested that they'd listen if it was the WHO and so we had to target it. That was on Saturday night and when I woke up on Sunday morning, I asked myself, do I really want to do this? I started realising how huge it would become.

Three days later our first letter was sent to WHO headquarters in Geneva, which started the conversation, but there was little action from them until that Open Letter was published at the beginning of July.

WSWS: That's a long period.

LM: Yes. It's a very long period, and even after the WHO acknowledged that it is an airborne disease their statement left the door open for public health authorities, who didn't want to notice this, to not notice it. It was a very weak statement, and although it was slowly improved through subsequent briefings it was never the sufficiently strong public health message that it should have been and still isn't.

WSWS: Why did WHO act in the manner that it did and has it similarly mis-characterised other diseases in recent times?

LM: There are papers and books being written about this, and many answers. One is the existence of an old medical dogma which states that if you're an arm's length from an infected person then you are safe. This goes back to some studies in the 1930s. Those studies did not, however, consider smaller particles emitted from respiratory activities, which are in the majority, but the misconception was somehow ingrained in the training of medical professionals.

One could say it was a kind of medical dogma, but according to my experience most medical professionals do not believe in this dogma. After the open letter was published, I received thousands and thousands of emails—many of them from medical experts—and not one of them questioned the issue of airborne transmission.

So how come public health authorities, national or state, denied this? It seems somehow that those who believe in this old dogma, for whatever reason, are concentrated in public health authority circles and not generally among medical professionals.

The WHO had advisors who had very strong positions against the airborne transmission. Why they didn't involve anybody else is a very good question. They would have realised that the advisors were saying this, but that a large part of the medical community was saying something different. The logical reaction would have been to involve other experts.

I've been working with the WHO for the past 25 years or so. We are a WHO collaborating centre and I've been advisor on many projects. I was co-chair of the WHO air-quality guidelines that were released in September last year and which is the most important document in this field.

Working with a group of experts like this from all the areas involved has always been the best and most rewarding of my professional experience. Science was always the key and there would sometimes be endless discussion to make sure that everybody was [scientifically] happy with what we decided.

So why was the specific area of the WHO responsible for infection control operating differently and fuelling disbelief in the airborne nature of this virus? This was a big question in my mind.

The WHO's position was that the virus was not airborne. This could have been rectified but that would have gone against what the director general had loudly announced. It would have been difficult making a U-turn from saying it's not airborne, but the longer it went on the more difficult it became. This is my speculation.

The WHO, of course, is not a government but offers advice and recommendations. It's not responsible for actions on the ground and doesn't have to pay for these actions. So, we're talking about state or

federal governments having to do something, and for them it's easier to say it's not airborne, wash your hands and stay at a distance, and therefore put responsibility on individuals. They don't have to do anything else; they don't need to worry about ventilation or issuing new guidance; the problem does not exist.

WSWS: You and others have pointed out that N95 masks or similar types should really be the standard for all ages, including children. How critical is this in preventing infections for children, particularly at school but also other places?

LM: One of the key elements is not just the mask material but how well the mask fits. You often see people wearing surgical or cloth masks where the air is not going through the mask but in the gaps around it.

Some years ago, my colleagues and I published a paper about N95 masks and surgical masks used to prevent pseudomonas bacterial infections, with a particular focus on people with cystic fibrosis for whom Pseudomonas is a big problem.

We built a sort of flow tunnel where we did the measurements. We showed that in terms of preventing release of these bacteria, which are bigger than the coronavirus and easier to contain, both types of masks were sufficiently good. The only difference was the surgical masks were more tolerable.

But all this was in this experimental situation and then we fitted the masks to our volunteers. This meant that the masks were well fitted, and the volunteers were sitting down, not touching the mask and not doing anything else.

The situation is different when people fit their own masks or don't do it properly, and if you're dealing with Omicron or Delta variants which are significantly more infectious than many other pathogens. So, when talking about very infectious viruses, a surgical mask doesn't provide the same level of protection in terms of airflow compared to an N95 mask.

WSWS: Given that N95 masks are far superior and widely available, why haven't they been mandated in schools?

LM: This is another political question that's very difficult to answer. Maybe the government is worried that this wouldn't be popular with parents or that the government would be asked to subsidise these masks.

Governments are presenting the view that things are back to normal, that there are no issues and no risks, and pretend that nothing is happening. It doesn't make sense but it's part of the push to remove all restrictions.

WSWS: To what extent have state or federal governments improved ventilation standards or even introduced ventilation mandates since the pandemic?

LM: Have you heard anybody in the federal government use the word ventilation? I haven't, despite directly trying to interact with it.

The federal government relinquishes all of this to the states and doesn't have anything to do with these kind of mitigation measures. There's never been any situation where politicians have mentioned ventilation. At least not that I have heard. So that's the situation.

WSWS: Could you speak about China? Given its successful Zero-COVID policy, has the Chinese government addressed the question of ventilation? Is it a component of its coronavirus health response?

LM: It's difficult to answer because I don't know exactly what's happening on the ground. I must say though that the very beginning of this journey with governments and public health authorities started with China. I work closely with many colleagues in China and I'm a co-director of Australia-China Center for Air Quality Science and Management.

In early February 2020 a colleague from China, Professor *Junji Cao*, contacted me as he was preoccupied about the Chinese government not stressing sufficiently the issue of airborne transmission. Together we published our first paper during the pandemic, and it was titled "Airborne transmission of SARS-CoV-2: The world should face the reality." So, it was China, or the initial lack of actions in China, that first motivated me.

It was easy to implement the use of proper masks because the community there is used to wearing them.

To what extent they focused on ventilation I don't really know. It's a very disciplined society and if there are regulations put in place and the population sees that they make sense, then it's very easy to get support.

WSWS: People are being told they need to get back to work and keep the economy and profits coming in. Borders are being opened without long-term measures being implemented and scientists are being marginalised in the mainstream media, which is providing little real information. What's the next step for scientists?

LM: Well, it's basically to not give up. Last September I wrote a little commentary for *Air Quality and Climate Change*, which is the Clean Air Society journal of Australia and New Zealand. It was titled "The age of anti-science and how to change this."

The issue we're discussing now applies to the other sciences, including climate change. We have all the knowledge and we have had it for a very long time. The problem is not going to miraculously disappear but is going to get worse. There is a movement from the grassroots for change, but the government is still not doing much.

The only thing to do from my perspective, as well as my colleagues, is not to give up but to keep pushing and educating the community. If there is no awareness on the street, if people don't realise that there is a problem, then they won't push for something to be done. I show people a CO2 meter, which I carry with me all the time, and show people the levels and then start a discussion.

I do not refuse any invitation to give presentations to all sorts of professional communities and haven't refused any interviews. It is a question of talking to people and publishing more scientific papers. What else can I do as a scientist?

WSWS: What do you think of the Global Workers' Inquest into COVID-19 Pandemic initiated by the WSWS? Have you looked at any of the material or submissions and interviews that we've posted?

LM: I had a very quick look among what you have presented. It's good and I agree with it. My plan is to explain what happened with our initial interaction with the WHO, because that story hasn't really been told. This is to make sure that we learn from it and that something good comes out of it.



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