

San Diego educators interview atmospheric chemist Dr. Delphine Farmer on air quality in schools

San Diego Educators Rank-and-File Safety Committee
6 May 2021

The West Coast Educators Rank-and-File Safety Committees are meeting at 2:00 p.m. PST this Saturday, May 8. Register here to attend and invite your coworkers and friends to join the meeting!

This week, many schools have expanded in-person learning in a number of major districts across the West Coast of the United States, including in Los Angeles, San Diego, Oakland and Seattle. This takes place as more infectious SARS-CoV-2 variants continue to pummel hospital systems and health care facilities in states from Michigan to New York, as well as in neighboring Canada and countries from the Philippines to Brazil and India, the latter of which has become the global epicenter of the pandemic.

As the suffering and death toll rises globally, educators and parents have been at the receiving end of an unending barrage of pseudoscientific claims that classrooms are safe to reopen.

In attempts to quell opposition and provide a false sense of security for concerned parents and staff regarding the safety of classrooms, dozens of school districts throughout California and hundreds nationwide, have spent millions of dollars on needlepoint bipolar ionization devices (NBPIs). Manufacturers deceptively claim their ionizers remove particulate matter from the air and have anywhere from 90-99 percent proven effectiveness to remove viruses, including SARS-CoV-2, from classrooms and other indoor settings.

The San Diego Educators Rank-and-File Safety Committee interviewed atmospheric chemist Dr. Delphine Farmer, one of the researchers in a recent independent peer-reviewed study, conducted in partnership with experts from three different universities. Their study found that the NBPIs studied did not significantly reduce particulate matter in the air and were much less effective at removing SARS-CoV-2 than the manufacturers claimed.

The watershed study revealed that NBPIs had an entirely negligible effect on removing the airborne particles of coronavirus, the primary method of transmission. Rather than the average manufacturer's claim of 99.9 percent effectiveness at removing the virus, the NBPIs reduced 20-30 percent of the virus from surfaces only, which also had no significant impact of deactivating coronavirus more than just letting the virus naturally decay. Additionally, researchers exposed that the efficiency of these products in real scenarios, such as in classrooms, would be even lower.

Dr. Farmer explained that their study used a chamber to simulate an actual room with organic compounds floating in the air. The findings were damning. Farmer said, "We ran the test with ionizer on and ionizer off, and there was no statistical difference in removal of air particles." She noted that ionizers do not actually accomplish their

"bold claims" in real world settings, and rather than removing or neutralizing SARS-CoV-2 particles in the air, they instead produce volatile organic compounds (VOCs) that are bad for lung health.

The study tested ionizers manufactured by Global Plasma Solutions (GPS). GPS bases its claims of a 99 percent removal of coronavirus from the air on a company-funded study that tested the device's ability to clean the air in a chamber the size of a shoe box. In its clinical trials, the small air chamber was pumped with 27,000 ions per cubic centimeter in order to achieve the desired results.

Last September, the founder of GPS, Charlie Waddell, admitted during an interview with Zane Davis, business development manager for Direct Supply TELS, that the level of ions put into the air will be around 20 times lower than the clinical trials. He stated, "We just want to get levels up to 1,500-2,000 ions per cubic centimeter to have a positive impact for the indoor levels of ions in the building."

Dr. Farmer outlined that there is a major difference between the peer-reviewed study performed by her and her colleagues, versus the data sheets provided by these companies. She emphasized that these so-called findings cannot be trusted, stating, "They've got some numbers. It's not peer-reviewed; the company would have paid an independent testing firm to run a set of tests and then they choose your results."

She stressed the importance of peer-reviewed studies, where scientists have to be highly detailed in the layout of their methods, setup and experiment so that it can be reproduced by anyone reading it and the same results arrived at. She stressed that this process is "really the hallmark of trying to acquire a body of evidence," because such studies are also subject to a review of methods and findings by an array of anonymous experts in the field.

California is the wealthiest state in the country, yet a number of school districts throughout the state have placed ionizers into classrooms instead of investing in upgrades to their heating, ventilation, and air conditioning (HVAC) systems and implementing proven industry-regulated air filtration practices.

Ionizers are manufactured to release a mixture of positive and negative reactive ions into the air, which then supposedly react with virus and bacteria particles and either deactivate or kill the virus on surfaces or reduce particulate matter in the air by agglomerating particles so that an air filter will pick them up.

However, there exists no science that the removal of COVID-19 from the air actually occurs. A number of chemists and scientists, who are experts in air quality, have referred to ionizers as "snake oil" from an unregulated industry that makes huge claims not backed by any

peer-reviewed studies.

The millions spent installing these devices in schools across the US and internationally have produced extraordinary profits for the companies producing these “magic bullet” devices. Their executives and major shareholders are among the growing “pandemic profiteers,” who have enriched themselves during the crisis with false claims.

Dr. Marwa Zaatari is a mechanical engineer, expert on indoor air quality and member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) epidemic task force. She noted in a recent tweet that more than 250 districts, schools and universities have already purchased and installed ionizer models the EPA has linked to “potentially harmful byproducts,” such as ozone or formaldehyde. She also indicates the list is far from exhaustive and estimates well over \$60 million was spent.

Here in San Diego County, the Sweetwater Union High School District (SUHSD), with a student population of over 39,000 students, has installed GPS iWave R NBPIs in every classroom. Dr. Zaatari showed in a twitter post responding to a teacher that these devices are not effective and produce harmful VOCs. GPS iWave manufacturers claim that the devices remove 99.4 percent of SARS-CoV-2 particles, to which Zaatari responds with the following tweet and video experiment, demonstrating that this level of efficiency can be achieved in a small, one cubic foot box, but the same data cannot be found in a large classroom setting.

The San Diego Educators Rank-and-File Safety Committee calls for the immediate closure of all schools and nonessential businesses, not only locally but in all the nations of the world where the pandemic has been allowed to lay waste to the health of the working class population. Although daily new cases are declining in much of the US, children remain unvaccinated and at-risk for contracting COVID-19, with an estimated 10 to 15 percent having persistent “Long COVID” symptoms. Furthermore, the continued spread of the virus while the population is insufficiently vaccinated creates the conditions for the virus to mutate and become more vaccine resistant.

In opposing the reckless reopening of schools, we recognize that in many cases teachers are being forced back in. Under these conditions, we will continue to fight for school closures while demanding that the following safety measures be universally implemented:

- Where present, all ionizers in use in schools and classrooms should be immediately turned off and removed.

- Full funding must be provided for the highest levels of modernization of HVAC systems for all schools, including MERV 13 filters and an air exchange rate of six per hour as recommended by the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers).

- Every school building must be provided with a carbon dioxide sensor to monitor air exchange, and whenever levels surpass 1,000 parts per million, that building must be emptied to allow fresh air to recirculate.

- Nurses must be staffed at every school, and students, teachers and staff must receive daily testing.

- Full and accurate reporting of all cases among students, staff and associated households, along with robust contact tracing.

- Districts and schools must report numbers (not names to ensure privacy) of students, staff and associated household members diagnosed with COVID-19 and any associated deaths, which must be tracked through mandatory contact tracing.

- The mass hiring of teachers, school employees and bus drivers to reduce class sizes and bus capacity to no more than 10 students.

Dr. Farmer emphasized her support for educators fighting for their safety and that they should remain remote in the midst of the pandemic. She added, “I think teachers are used to thinking through problems and questions of logic. You grade assignments, but grade these companies. Think about it from exactly that same perspective of ‘did they give me enough information, and do I need to ask for more?’”

In California, Democratic Governor Gavin Newsom is carrying out the reopening policies demanded by the ruling class. Biden has inherited the tasks put before Trump, more readily utilizing the trade unions to help carry out these policies. From Chicago to Detroit, New York to Los Angeles and here in San Diego, none of the teachers unions has waged any effort to remain remote. The warnings by leading experts on indoor air quality have fallen on deaf ears of the Sweetwater Education Association, which has continually told educators that the “combined Swiss cheese” model of “masks, distancing, plus ionizers” will keep them “safe.”

Only small numbers of students are entering classrooms this week, as the majority of parents and families remain concerned about the unsafe conditions in schools. Educators, on the other hand, have been given no choice, and many have been forced to either resign or take leave if they refuse to go in. According to the Learning Policy Institute, Long Beach Unified School District (LBUSD), one of the largest school districts in California, reported that there has been a 35 percent increase in teacher leaves of absence. A survey by the UK National Education Union last month showed that one in three teachers was planning to quit the profession.

The San Diego Educators Rank-and-File Safety Committee calls on educators and other sections of workers to organize and unite internationally to prevent the further spread of COVID-19 and fight for the highest safety measures in all workplaces. We support the call to build the International Workers Alliance of Rank-and-File Committees in order to secure the resources and political program to end the pandemic and its greatest benefactors, the capitalist elites.

We encourage all educators opposed to the reopening of schools and interested in fighting for the highest safety measures and for the preservation of life to attend a meeting of the West Coast Educators Rank-and-File Safety Committees at 2:00 p.m. PST this Saturday, May 8. Register here to attend.



To contact the WSWS and the
Socialist Equality Party visit:

wsws.org/contact