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To those affected, their doctors and caretakers.
To politicians and institutions
To Media

Zürich 24th February 2021

ref. **SARS-Cov-2: Spillover, particulate matter and mutation**

Dear Sir/Madam

As a study on the role of particulate matter 2.5 in mutations of SARS-Cov-2 shows, that was carried out on the basis of data from Beijing, Sheffield, Nottingham, Cambridge and Sydney in the period between January 23rd and April 29th 2020, the SARS-Cov-2 viral load, rose together with the amount of particulate matter 2.5, and fell when the amount of fine dust fell due to the lockdown, and after widespread mutations, a new strain of SARS-Cov-2 was formed, which finally became predominant. As studies from the USA and India have shown earlier, long-term particulate matter emissions increase mortality from Covid-19 and block the defenses activities in epithelial tissues of the lungs, the cardiovascular system, the internal organs and the brain, which enables the virus to spread unhindered and thus brings about an increased viral load, which promotes the transmission of SARS-Cov-2 and a severe disease courses of Covid-19 that make hospitalization of patients necessary. As the authors of the study state, the amount of particulate matter 2.5 is likely to determine the predominant mutant of SARS-Cov-2 in a certain region.

Whilst a high amount of particulate matter, low temperatures and high humidity promote the spread of Covid-19, high ozone levels tend to have the opposite effect, as they diminish the spread of stable particulate matter.

[... COVID-19 Evolution and daily Viral Counts: Could Viral Natural Selection have occurred due to changes in the Airborne Pollutant PM2.5 acting as a Vector for SARS ...](#)

[\[PDF\] medrxiv.org](#)

[Spatial-temporal variations in atmospheric factors contribute to SARS-CoV-2 outbreak](#)

[HTML\] mdpi.com](#)

Detailed new studies from various countries confirm the close connection between Covid-19 and particulate matter.

[BUCH] Incidence of COVID-19 and connections with air pollution exposure: evidence from the Netherlands

[PDF] medrxiv.org

Air pollution exposure and COVID-19

[PDF] econstor.eu

Sustainable Ambient Environment to Prevent Future Outbreaks: How Ambient Environment Relates to COVID-19 Local Transmission in Lima, Peru

[PDF] mdpi.com

Gaussian approach for probability and correlation between the number of COVID-19 cases and the air pollution in Lima

[HTML] nih.gov

Regional and global contributions of air pollution to risk of death from COVID-19

[HTML] oup.com

Air quality during the COVID-19: PM2.5 analysis in the 50 most polluted capital cities in the world

[HTML] nih.gov

The effects of atmospheric stability with low wind speed and of air pollution on the accelerated transmission dynamics of COVID-19

[PDF] academia.edu

Air pollution is associated with covid-19 incidence and mortality in Vienna, Austria

[PDF] mdpi.com

Particulate matter directly blocks the mitochondrial function in epithelial cells and impedes thereby basic immune reactions such as autophagy and mitophagy which are essential for antiviral defense.

Urban particulate matter disturbs the equilibrium of mitochondrial dynamics and biogenesis in human vascular endothelial cells

[HTML] Impairment of mitochondrial function by particulate matter: Implications for the brain

[HTML] [sciencedirect.com](https://www.sciencedirect.com)

Mitochondria as a target of environmental toxicants

[HTML] [oup.com](https://www.oup.com)

[HTML] The essential role of mitochondrial dynamics in antiviral immunity

[HTML] [sciencedirect.com](https://www.sciencedirect.com)

Mitochondria: the indispensable players in innate immunity and guardians of the inflammatory response

[HTML] [nih.gov](https://www.nih.gov)

[HTML] Network analysis and transcriptome profiling identify autophagic and mitochondrial dysfunctions in SARS-CoV-2 infection

[HTML] [nih.gov](https://www.nih.gov)Free from Publisher

The role of mitochondrial dysfunction in cardiovascular disease: a brief review

[PDF] [tandfonline.com](https://www.tandfonline.com)Full View

Oxidative stress-induced autophagy: role in pulmonary toxicity

[HTML] [nih.gov](https://www.nih.gov)

[HTML] Picking up a fight: Fine tuning mitochondrial innate immune defenses against RNA viruses

[HTML] [frontiersin.org](https://www.frontiersin.org)

Whether it will now be possible to reduce the content of particulate matter 2.5 indoors, which is responsible for the transmission of SARS-Cov-2 in these places, by using air purification devices in daycare centers, schools, retirement homes, workplaces and shops, seems to depend on the costs to be taken over by the municipalities and the provinces which are responsible for its installation. Infants and schoolchildren can undoubtedly be symptom-free carriers of

SARS-Cov-2, who can pass this virus on to adults. Air purification in bars and restaurants, open-plan offices, in industry, shops and homes requires specific solutions. A permanent reduction in the amount of particulate matter in indoor areas can only be achieved if the amount of it in the environment can be significantly reduced.

[Testing mobile air purifiers in a school classroom: Reducing the airborne transmission risk for SARS-CoV-2](#)

[PDF] [medrxiv.org](#)

[\[HTML\] Airborne particles in indoor environment of homes, schools, offices and aged care facilities: The main routes of exposure](#)

[HTML] [sciencedirect.com](#)

SARS-Cov-2 viruses from infected people and animals enter wastewater via excretions which are cleaned in sewage treatment plants, or via soils and adjacent waters directly, that can be visited by wild animals and by farm animals. Antiviral substances from the AIDS therapy, which have recently been given to Covid-19 patients in developing countries, and antibiotics, which are used en masse in livestock, poultry, pig- and fish farming, also get into the environment via excretions and dissolve resistances in viral, bacterial and fungible germs that can be transmitted back to humans from farm animals, via direct contacts and food.

[A chronicle of SARS-CoV-2: Seasonality, environmental fate, transport, inactivation, and antiviral drug resistance](#)

[HTML] [nih.gov](#)

As the extensive study on the Covid-19 outbreak in Ischgl, shows, which led to infections in several countries via après-ski partygoers, there are fixed mutations within clusters after slow mutations in individual people. The effect of individual medications such as Remdesivir, Kaletra, AIDS-medicaments and various antibiotics in carriers of individual mutations became visible (Supplementary Material Fig. S4). As studies on the inhabitants of Ischgl show, who have suffered of the Covid-19 infection, most of them after one year still show effective antibodies against the virus.

[Genomic epidemiology of superspreading events in Austria reveals mutational dynamics and transmission properties of SARS-CoV-2](#)

[PDF] [sciencemag.org](#)

The transmission of SARS-Cov-2 from wild animals such as bats to humans passes through various stations. After changing into intermediate hosts such as tigers, lions, dromedaries, snakes, and frogs, in which they change their characteristics, they can move into poultry and domestic animals such as dogs, cats and ferrets, in which they can develop further. In doing so, they ultimately acquire the properties that enable them to infest people through direct contact and through meet. In this process, infected people can in turn infect pets or farm animals to be later re-infected by them.

[SARS-CoV-2 jumping the species barrier: zoonotic lessons from SARS, MERS and recent advances to combat this pandemic virus](#)

[HTML] [nih.gov](#)

[SARS-CoV-2: Jumping the species barrier, lessons from SARS and MERS, its zoonotic spillover, transmission to humans, preventive and control measures and recent ...](#)

[PDF] [preprints.org](#)

[Farm fairs and petting zoos: a review of animal contact as a source of zoonotic enteric disease](#)

[PDF] [liebertpub.com](#)

[Zoonotic Diseases: Etiology, Impact, and Control](#)

[PDF] [mdpi.com](#)

[Zoonotic and reverse zoonotic events of SARS-CoV-2 and their impact on global health](#)

[PDF] [tandfonline.com](#) Full View

[Jumping back and forth: anthrozoönotic and zoonotic transmission of SARS-CoV-2 on mink farms](#)

[PDF] [biorxiv.org](#)

The consumption of meat from hunted animals, the transport of animals over long distances, the slaughter of animals in improvised slaughterhouses, the expansion and intensification of animal breeding, the displacement of habitats for wild animals and markets with live animals can all play a role in the transmission of zoonotic infections.

[PDF] [Emergence of Zoonoses at Human-Animal Interface](#)

[\[PDF\] semanticscholar.org](#)

... , host and environmental factors that favor anthrozoonotic spillover of coronaviruses: An opinionated review, focusing on SARS-CoV, MERS-CoV and SARS-CoV-2

[\[PDF\] researchgate.net](#)

Evolution and emergence of pathogenic viruses: past, present, and future

[\[HTML\] karger.com](#)

When viruses get to new regions via infected people, they can get into water bodies via excretions and from there to new primary and intermediate hosts.

Spillover of SARS-CoV-2 into novel wild hosts in North America: A conceptual model for perpetuation of the pathogen

[PDF\] unl.edu](#)

Studies on the flu virus Influenza A show how individual viruses gradually develop in individual hosts and what hurdles they have to overcome before they can jump over to a new host. Under certain conditions, they can undergo several mutations in a short period.

[HTML] Prisoners of war—host adaptation and its constraints on virus evolution

[\[HTML\] nature.com](#)

Within-host evolution of human influenza virus

[HTML\] nih.gov](#)

[HTML] Host and viral determinants of influenza A virus species specificity

[\[HTML\] nature.com](#)

The means that can be used to avoid viral infections of animal origin in humans after Covid-19 is currently the subject of much consideration.

Taking a lesson from the COVID-19 pandemic: Preventing the future outbreaks of viral zoonoses through a multi-faceted approach

[\[HTML\] nih.gov](#)

What is certain is that this requires changes in the use of antibiotics in animal breeding, which is responsible for the formation of resistant germs that can be transmitted to humans.

The fact that mutants of SARS-Cov-2 lead to increased transferability, as is repeatedly stated, has not yet been confirmed by research.

[HTML] No evidence for increased transmissibility from recurrent mutations in SARS-CoV-2

[\[HTML\] nature.com](#)

The one-sided view of Covid-19 from the point of view of the Bill & Melinda-Gates Foundation, which wants to end endemic diseases worldwide via the GAVI Association solely by vaccines, lead to a continuous fading out central drivers of the Covid-19 pandemic. Thanks to the PCR test by Christian Drosten & Co, which cannot distinguish normal flu viruses from SARS-Cov-2 viruses, this has led to the situation that everyone is hypnotized by the daily numbers of infected, test-positive and deceased people and is completely focused on avoiding infection through protective measures, whilst measures against the drivers of the pandemic, such as particulate matter in the air of outdoor and indoor spaces, which was already known in the beginning in Wuhan as a central factor for the severe course of Covid-19, or the spill-over of SARS-Cov-2 from wild animals to farm animals and the transmission from farm animals and pets on humans, who are critical to the fitness of the virus, never became a permanent issue in the fight of the pandemic.

In this way the lockdown to avoid any contact that would allow the virus to be transmitted increasingly became the only effective means against the pandemic, for which, according to the leading virologists, it was not external factors or the resistance of the populations that were decisive, but only the disease-causing virus, which alone could be combated by an effective vaccine, as repeatedly emphasized by experts who, like Christian Drosten, are directly connected to the manufacturers of tests, or like the Federal Chancellor, Dr. Merkel, are advocating for the pharmaceutical industry including the vaccine manufacturers and the test manufacturers, which are important employers and taxpayers.

As was the case at the time with the AIDS pandemic, which was attributed solely to the so-called Hi-retroviruses, whilst the role of antibiotic resistance in the development of AIDS-defining diseases such as tuberculosis, herpes, hepatitis, syphilis, gonorrhoea or chlamydia was consequently faded out for decades. The role of particulate matter in the spread of SARS-Cov-2 and the severe course of the disease are

consistently ignored by leading media, experts and government institutions, so that in the end Lockdown measures, frequent tests and strict border controls in relation to "mutation zones" and entry bans in relation to individual countries "are without alternative".

[http://www.ummafrapp.de/skandal/felix/Darmflora/Gut flora%20 intestinal mucosa antibiotics and AIDS.pdf](http://www.ummafrapp.de/skandal/felix/Darmflora/Gut%20intestinal%20mucosa%20antibiotics%20and%20AIDS.pdf)

The fact that the vaccines, which are supposed to be the only effective means against the pandemic, now cannot be administered because they are not available in the necessary quantities, and the fact that mutations are occurring which certain vaccines may not be able to protect against, are a foreseeable result of this reduced perspective on Covid-19 and its causes.

As an internationally known scientist from the University of Zurich, Christian Münz, professor of viral immunobiology, now points out, vaccination with adenoviral vector vaccines, such as the Astra-Zeneca vaccine, the Russian Sputnik V vaccine and others, may transport with its functioning foreign DNA into the cell nucleus, leading after time to increased incidence of cancer. The fact that neither Claire Anne Sigrist, Professor of Vaccinology at the University of Geneva, nor Carlos Guzman, Head of Vaccinology at the Helmholtz Center for infection research in Braunschweig, want to answer questions about such possible long-term adverse effects speaks volumes. Obviously, no doubts about vaccines should be cast, when the WHO calls for the urgent registration of the Astra-Zeneca vaccine in more countries and its broad administration in developing countries, which thereby should become an area for a big human-trial with new adenoviral vector-based vaccines to be applied in the future against influenza and in genetic therapies.

In Switzerland the Astra-Zeneca-vaccine has not been registered by now due to lacking data on its effects on the elderly, whereas in Germany it was registered for the use in persons younger than 60 years and largely administered to healthcare workers, teachers and policemen, even as its long-time side effects were not evaluated.

[How the Oxford-AstraZeneca Vaccine Works](https://www.nytimes.com/interactive/2020/health/oxford-astrazeneca-covid-19-vaccine.html)

<https://www.nytimes.com/interactive/2020/health/oxford-astrazeneca-covid-19-vaccine.html>

[Vaccines for COVID-19](#)

[\[PDF\] wiley.com](#)

[Covid-19: Novavax vaccine efficacy is 86% against UK variant and 60% against South African variant](#)

[Evaluation of the Moderna, Pfizer/biontech, Astrazeneca/oxford and Sputnik V Vaccines for COVID-19](#)

[\[PDF\] osf.io](#)

[COVID-19 vaccine frontrunners and their nanotechnology design](#)

[\[HTML\] nih.gov](#)

[\[HTML\] Adenoviral Vector-Based Vaccine Platforms for Developing the Next Generation of Influenza Vaccines](#)

[\[PDF\] mdpi.com](#)

[\[HTML\] Viral vector platforms within the gene therapy landscape](#)

[\[HTML\] nature.com](#)[Full View](#)

Before any evaluation of possible effects of the new vaccines could even take place, countries such as England, Germany and the USA decided under the influence of the Gavi Association, claiming the urgency in favor of a massive dispensing of vaccines, its registration. Although many questions were still unanswered and many other vaccine trials are on the way, in the West Biontech-Pfizer with participation of the German state, Moderna in cooperation with state research institutes of the USA, and Astra-Zeneca with support from the British government made the race, with the countries involved immediately effecting pressure on their populations to get vaccinated quickly, whilst Russia and China supplied their own adeno-vector vaccines to various countries.

If nurses in Germany now refuse to be vaccinated with Astra-Zeneca-vaccine, after bad experiences of colleagues with side effects, they are asked now to reason by their health minister.

The fact that, under today's environmental conditions, there will be further mutations of SARS-Cov-2 in different regions of the world, and that new niches for its further development will arise, makes it clear that effective environmental measures are now needed quickly to get the Covid-19 pandemic under control. In regard of the central role that particulate matter emissions play in the formation of mutations, the spread of the virus and the severe course of the disease, measures must be taken for the short-term reduction of particulate matter from exhaust gases that arise in car traffic, in manufacturing processes, in energy generation and in heating. More charging stations for e-cars in the next 10 years are of little use in the short term. There needs to be driving bans for vehicles that do not comply with the applicable emissions standards, and alternating driving bans

for vehicles, according to the last odd or even number on the license plate, as they have been applied in Milan at smog alarms.

Without air purification devices having been installed in schools and daycare centers, these are now opened in an emergency because the economic and social damage after the second lockdown became too high for many people. This time, by means of rapid tests that can be carried out independently, asymptomatic carriers of SARS-Cov-2 can be identified more quickly so that infection chains can be interrupted, when the data is sent to the health authorities. Again, there is no clear strategy of measures in individual areas, such as special shopping times for the elderly in city centers or the opening of restaurants on outdoor terraces.

The corona policy is still not determined by the protection of vulnerable groups or effective measures against the drivers of the pandemic, but solely by the concept of vaccinations as a solution to all problems. Development for Covid-19 medicaments only get little financial support by the German state.

The fact that many people cannot get vaccinated in the foreseeable future because the necessary quantities of vaccines are lacking even if many new vaccines would be approved, does not matter. Nevertheless, work is being carried out quickly in the European Union on a vaccination card that should allow vaccinated people to travel.

The return to the much-vaunted normal life may be a long way off for many people when it comes to the big business with vaccines and tests which is obviously supposed to usher in a new age of technology, work, and social control.

Study Group AIDS-therapy

Felix de Fries

Is particulate matter responsible for the severe course of Covid-19 ? (published in German at the 20th March 2020)

[https://www.immunity.org.uk/wp-content/uploads/2020/10/Is-the-severe-course-of-Covid-19 .pdf](https://www.immunity.org.uk/wp-content/uploads/2020/10/Is-the-severe-course-of-Covid-19.pdf)