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Breathing is enough – the role of aerosol particles in spreading SARS-CoV-2

Plenary Lecture & Get-together
in the framework of the Summer School Basic Aerosol Science
Monday, 11 July 2022, 17:15, Sky Lounge, 12th floor, Oskar-Morgenstern-Platz 1, 1090 Vienna

Please register for participation in this event

Overview of presentation

On 7 April 2020, Lidia Morawska and Junji Cao published a paper entitled *Airborne transmission of SARS-CoV-2: The world should face the reality.* Back then, most virologists and other scientists did not believe in the possibility of an airborne transmission of these new coronaviruses. It took another 13 months until the American Center of Disease Control (CDC) changed their statement on the website that neglected the airborne transmission.

Now we know that there is evidence that airborne transmission is the most important route of infection in indoor environments. Aerosol droplets are generated in the entire respiratory tract and are exhaled by an infected individual. These tiny droplets can then be inhaled by others. If the aerosol that is generated by the infected individual contains SARS-CoV-2 viruses, other people can be infected if the inhaled dose is sufficient.

This presentation shows how aerosol particles are generated within the lungs and presents the evidence that SARS-CoV-2 is transmitted via the air.

Measures are discussed to help prevent the airborne spread of the virus.

Dr. phil. nat. Gerhard Scheuch

Gerhard Scheuch is an aerosol scientist. He obtained his PhD in biophysics from the Johann-Wolfgang-Goethe University Frankfurt/Main, Germany, in 1992. He is founder and CEO of GS-Bio-Inhalation GmbH, a consultancy company in the field of pulmonary drug delivery. He has worked as a senior scientist at Helmholtz Centre Munich and as an engineer at GSF National Research Centre for Environment and Health in Frankfurt, Germany. He was visiting professor at the Environmental Protection Agency (EPA) in Chapel Hill, USA, and he founded several companies.

Gerhard Scheuch's research interests include deposition and distribution of inhaled aerosols in the human respiratory tract, mucociliary clearance mechanisms and drug delivery to the human lungs to treat pulmonary diseases. He has published more than 150 scientific articles on aerosol and lung research. He was member of the Board of International Society of Aerosols in Medicine (ISAM) and served as its president from 2009 to 2011. He was also a member of the expert panel of the European Medical Agency (EMA).

His scientific work was awarded with the Kenneth T. Whitby Award of the American Association for Aerosol Research and the Juraj Ferin Award of ISAM.

Since the beginning of the COVID-19 pandemic, he has advised numerous institutions on the spread of SARS-CoV-2 by aerosols including the German Robert Koch Institute. He has collaborated on position papers for the German Research Foundation (DFG) and the Association for Aerosol Research (GAeF), and is a popular interview partner for media. Since April 2021, he publishes a weekly podcast.

Please register here for the participation in this event:
aerosols.univie.ac.at/teaching/summerschool-2022/#c818728

Please note: although the registration of this plenary lecture is open until 20 June 2022, the maximum number of participants may be reached earlier and registration will be closed then. We therefore recommend to register early. If you are registered and cannot attend in this event, please inform the organizers that people from the waiting list can be admitted.