



Droplets, face masks and the fight against coronavirus

Summary of Academy webinar 4 June 2020

'Anxious minds are inquiring today whether another wave of it will come again.' That is how moderator Detlef Lohse, Professor of Physics of Fluids at the University of Twente, opened the well-attended webinar Corona: from droplets to pandemic. This could have been a recent quote, but it dates from 1919, the time of the Spanish Flu. Many of the measures taken then still work today. A panel of experts explained this on Thursday evening 4 June 2020 and discussed how best to combat coronavirus.

The danger is in the air, according to Lydia Bourouiba, Associate Professor at The Fluid Dynamics of Disease Transmission Laboratory at MIT. If droplets and aerosols, which are released by coughing, singing, sneezing, and speaking, linger in the air, they pose a real risk of infection. Bourouiba argued that masks and good ventilation offer protection and that government-imposed measures are demonstrably effective. Christian Kähler, Professor of Fluid Dynamics and Director of the Institut für Strömungsmechanik und Aerodynamik at the Universität der Bundeswehr München, also sees that masks reduce the risk of spreading by the wearer. However, they don't offer absolute protection against the virus. If governments make face masks and social distancing obligatory, it is possible to limit spreading without a strict lockdown.

Using detailed models, Viola Priesemann demonstrated the positive effect of the coronavirus measures in Germany. Priesemann is Professor of Physics, Complex Systems & Neural Networks and Group Leader & Fellow of the Elisabeth-Schiemann-Kolleg, Max-Planck-Institut für Dynamik und Selbstorganisation & Bernstein Center for Computational Neuroscience, Göttingen.

The evening was subsequently concluded by Daniel Bonn. He is Professor of Complex Fluids and Director of the Van der Waals-Zeeman Institute at the Institute of Physics at the University of Amsterdam, and used videos to show what happens to the droplets when someone sneezes or coughs: in a poorly ventilated room they can linger for up to sixteen minutes. The speakers at this webinar therefore argued for government measures with regard to ventilation, social distancing and face masks. "Governments must act!" says Christian Kähler.

This webinar is part of a series of meetings on coronavirus. [On our YouTube channel](#) you will soon be able to watch several fragments. You will also find here the registration of the webinar of 19 May 2020.