

Abstract Submitted
for the DFD20 Meeting of
The American Physical Society

Airborne germs transmission through droplet motility SUNNY KUMAR, MANIT BHOPAL MP INDIA — Generally, droplets are very commonly produced by fragrances spraying, coughing, sneezing and water spilling. The droplet dynamics is dependent upon the several parameters such as surrounding environment, size, shape, composition and external force. The external forces for breaking droplets are gravity, electric field, magnetic field, light, mechanical (pressure) and acoustic force. In case of sneezing or coughing, pressure force breaks the droplets into few microns size droplets with pathogens loaded. These tiny droplets can stay in the air for a few seconds which can transmit airborne infections. Sneezing pathogen loaded droplet motion and staying in air depends upon the speed of sneeze, droplet sizes, height from ground and ambient environment. The droplet contains 97 percent water and other salts, protein, fatty acid and virus. This dynamic of droplets can be analyzed by nondimensional numbers such as Reynold and Weber numbers. This study will help to understand the spreading of the virus through airborne transmission. The various precautions such as face mask, hand sanitization and social distancing can mitigate or reduce the transmission of the infection via respiratory droplets.

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Date submitted: 03 Aug 2020

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