ME Faculty Colloquium

Droplet and aerosols in context of CoViD-19

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ABSTRACT

Spread of COVID can be through respiratory droplets and fomites. In this talk I will provide a detailed exposition of how respiratory droplet dynamics can be mated with pandemic model to provide a first principle insights into infection spread rate. We will show through experiments using surrogate fluids, such models can be experimentally verified rigorously. Subsequently I will show how fomites form and how the virion are embedded in the crystal network using both contact free as well as sessile droplets. In the last part of the talk, I will highlight some unique pathways through which covid can spread namely eye procedures and surgeries. We will through through fluid dynamic approach, how droplets are created during eye procedures like tonometry, phaco surgeries to name a few. We will then summarize how safe these surgical procedures are in COVID19 pandemic.

ABOUT THE SPEAKER

Prof. Saptarshi Basu is currently DRDO Chair Professor in the department of mechanical engineering at IISc. Prof. Basu primarily works on multiphase systems especially droplets at multiple length and timescales. He is a fellow of Indian National Academy of Engineering, ASME, AIAA, Institute of Physics. Prof. Basu is the recipent of DST Swarnajayanti Fellowship in engineering science and the KN Seetharamu medal from ISHMT.

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