Abstract Submitted
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Coughing and sneezing LYDIA BOUROUIBA, ABIY TASISSA, JOHN BUSH, Massachusetts Institute of Technology — The emergence and explosive spread of virulent viral (e.g., H1N1, SARS) and bacterial (e.g., Tuberculosis) infections is a problem of global interest with enormous human and economic consequences. The nature of *contact* between infected and non-infected persons greatly influences the outcomes of the disease epidemic; nevertheless, the definition and mechanisms leading to contact remain nebulous. We here examine the manner in which fluid dynamics modeling can assist in our understanding of contact and transmission of respiratory diseases. Particular attention is given to modeling the effluent of discrete exhalation events (e.g., coughing, sneezing) as multiphase thermals, and to predicting the range of pathogen-bearing droplets.

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