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Abstract for an Invited Paper for the DFD20 Meeting of the American Physical Society

The Fluid Dynamics of Disease Transmission LYDIA BOUROUIBA, MIT

The fundamental mechanisms governing infectious disease transmission and contamination by most pathogens remain poorly understood. Fluid processes and physical laws at various scales combined with biological processes are key in filling this gap. We will discuss how fluids and their dynamics are critical in shaping pathogen transport and how, in turn this can shape various phases of infectious disease transmission. We will present an overview of our approach, combining theory and experiments, to elucidate droplet formation, transport, and fate, in the context of contamination in a range of systems.