

Abstract Submitted
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Flows in the Time of a Pandemic PHILIPPE BOURRIANNE, Princeton University, MANOUK ABKARIAN, CNRS, Universite de Montpellier, NAN XUE, JANINE NUNES, HOWARD A. STONE, Princeton University, PRINCETON OPEN VENTILATION MONITOR COLLABORATION COLLABORATION — COVID-19 pandemic dramatically affects our daily life and our research activities. It also stimulates diverse efforts and contributions from the academic community to help mitigating the sanitary crisis. Fluid mechanics are involved in a wide range of questions from the design of respiratory devices to the understanding of the air flows involved in contagion. As part of the Princeton Open Ventilation Monitor Collaboration (<http://ovm.princeton.edu>), we designed an inexpensive multi-patient respiratory monitoring system. We will describe the Fluid mechanics behind the design of a flowmeter able to measure and monitor the respiratory signals from a patient. Moreover, such device can also be used in combination with optical techniques of flow visualizations to track and understand the flow around us while breathing. Those observations can provide insights of practical interest to understand and quantify the key features involved in social distancing policies and improving ventilation strategies.

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