

Abstract Submitted
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Microscale underwater propulsion by oscillating air bubble columns¹ JIAN FENG, SUNG KWON CHO, University of Pittsburgh — We will present microscale underwater propulsion using oscillating air bubble columns. A cylindrical air bubble column is formed in a microchannel immersed in water (one end is open and directly exposed to water and the other is closed). Under an external acoustic field, the cylindrical air bubble column axially oscillates and generates a net flow near the open end of the microchannel. This net flow can generate a propelling force depending on many parameters such as oscillating frequency and amplitude. In this presentation, we will report and discuss detailed fabrication, testing and experimental results of this microscale propulsion.

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