

Abstract Submitted
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The Diffusion Fish THOMAS PEACOCK, ROMAN STOCKER, ERIC LAUGA, CHIANG MEI, MIT — Nature has evolved a prodigious variety of propulsion mechanisms. We have discovered a remarkable new one that requires no moving parts, instead coupling molecular diffusion and gravity to spontaneously propel asymmetric objects in stratified fluids. This can occur in lakes or marine environments, where temperature and salinity often create stable density gradients. The phenomenon is demonstrated using a triangular wedge, “the diffusion fish,” in salt-stratified water.

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