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A simple microfluidic-inspired extensional flow device for observation of small aquatic organisms: design and implementation NEIL THOMAS, RACHEL PEPPER, DORIAN LIEPMANN, M.A.R. KOEHL, UC Berkeley — We present a simple method for trapping microscopic particles and organisms around 100 μm in size. Using a laser-cut acrylic device and gravity-fed flow, single particles or organisms are trapped in a stagnation point formed at the center of intersecting channels, where they are observed under a microscope. Objects can be trapped by controlling the flow along the extensional axis, which is achieved by varying the outflow rate of one exit channel. We show results from applying this method to study the response of marine larvae (of the sea slug, *Phestilla sibogae*) to varying accelerations. We also present details of the simple and inexpensive fabrication technique used to create such small devices. Overall, this fabrication technique allows for the generalization of microfluidic devices to micro- and millimeter scale applications.

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