## **Confined Rayleigh-Taylor Instability**

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We isolate and study the effects of confinement on the Rayleigh-Taylor instability that arises when there is an inversion of density between two fluids. To create clean initial conditions when the fluids are miscible, we inject a less dense fluid into a denser one inside a thin gap separating two parallel plates. The less dense fluid forms a stratified layer in the center of the gap; its upper interface is unstable as it is displaced by the denser fluid above. The perturbed interface creates characteristic cellular patterns (left, visualized through the glass plates).



Confocal images of one downward plume developing inside the gap as the denser fluid (dark) invades the less dense fluid (bright).