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Swimming and settlement of coral larvae on structured surfaces in unsteady shear flow DANIEL GYSBERS, MARK LEVENSTEIN, GABRIEL JUAREZ, University of Illinois at Urbana-Champaign — The large and amazing structures that we know as coral reefs have humble beginnings as tiny (<1 mm) swimming organisms. Coral larvae must navigate the vast marine environment to locate a suitable surface where they will permanently settle on by responding to various chemical, biological, and physical cues. We present experimental results of coral larvae swimming and settlement on varying structured surfaces in unsteady shear flow. Our experiments use PTV of swimming larvae and PIV of unsteady shear flow in a U-shaped oscillatory flume to investigate the effect of hydrodynamic interactions between coral larvae and local flow structures generated by surface topology on settlement rates.

Daniel Gysbers
University of Illinois at Urbana-Champaign

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