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Three-Dimensional Vortex Design by Hydrofoil Acceleration MARTIN SCHEELER, DUSTIN KLECKNER, WILLIAM IRVINE, University of Chicago — We demonstrate the use of accelerated hydrofoils (airfoils in water) for the generation of vortex loops of arbitrary shape in three dimensions. The technique allows not only the patterning of shape, but non-trivial topology. We study both the process of vortex production and the subsequent vortex evolution using ultra-fast 3D laser scanning tomography.

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