The Singularity Is Near

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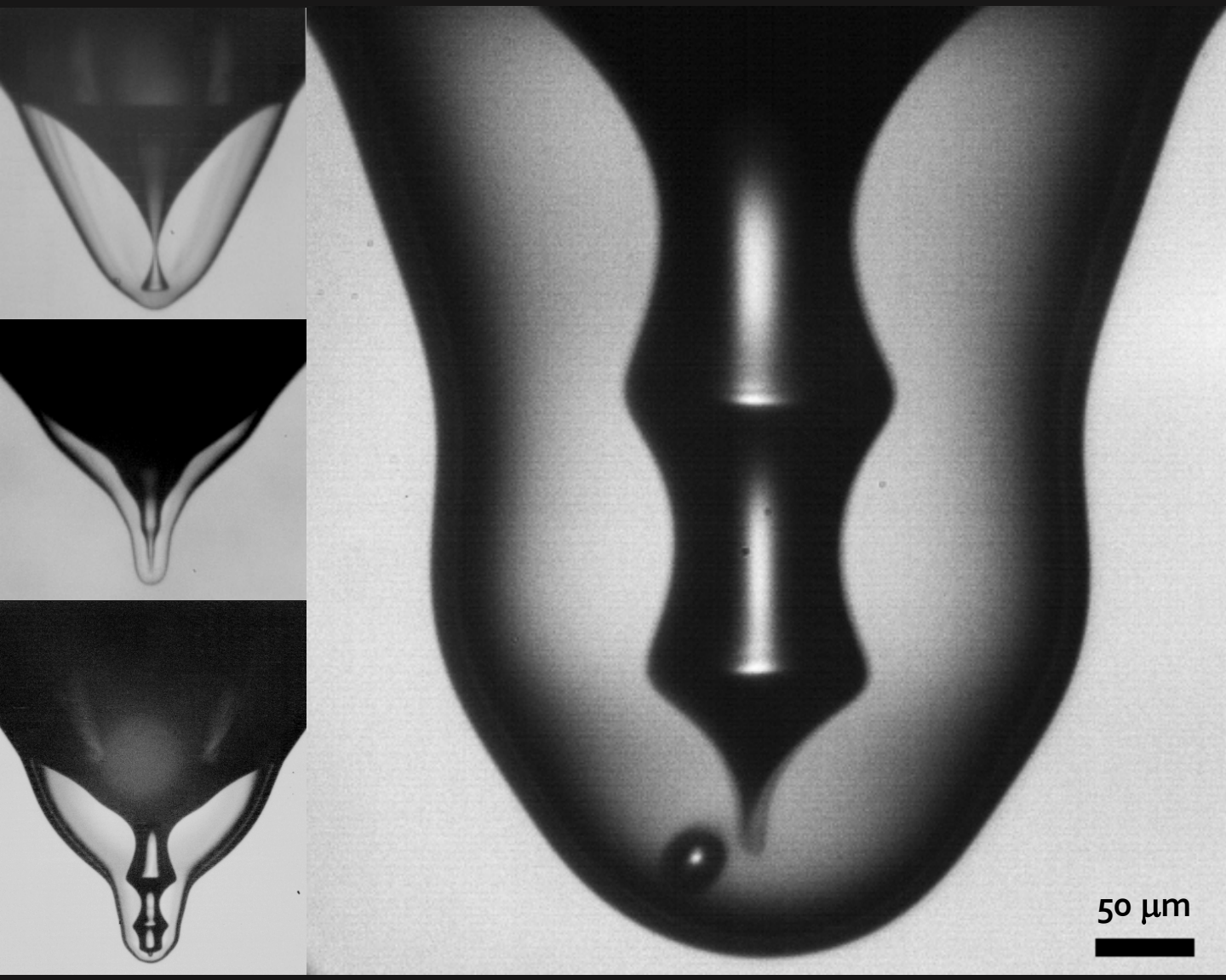

Finite-time flow singularities occur when a drop or a bubble pinches off from a nozzle. Singular jets also occur during the collapse of drop-impact craters [1]. These very fast jets arise from a dimple formed at the bottom of the crater. Here we use a very small perfluorohexane (PP1) droplet impacting on a water pool. This reveals novel intricate crater shapes, which include a cascade of dimples. To accurately capture the rapid shape evolution, we need frame-rates as high as 5 million fps. Our title is borrowed from Ray Kurzweil's book, which describes the approaching technological *singularity*, when the pace of major advances will overtake human timescales [2].

Reference
[1] S. T. Thoroddsen, K. Takehara, H. D. Nguyen, and T. G. Etoh, "Singular jets during the collapse of drop-impact craters," *Journal of Fluid Mechanics,* vol. 848, p. R3, 2018, Art. no. R3.
[2] R. Kurzweil, *The singularity is near: When humans transcend biology*. Penguin, 2005.

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