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Bursting bubbles and the search for invisible droplets[1]

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When a bubble bursts at an interface, the capillary waves create an intriguing cusp, which is responsible for an upward jet that can break into droplets. This jet drop phenomena is relevant to a variety of topics including the transport of respiratory pathogens and cloud-forming marine aerosols. The first part of this talk addresses how gravity and viscosity can inhibit jet drop production. The dominant role of gravity appears to be its role in the setting the bubble shape. The second part of the talk explores the size of the smallest aerosols produced. Given that the size of these droplets may be smaller than the wavelength of visible light, we are indeed searching both experimentally and numerically for invisible droplets.

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