

DROP MEDUSA

A quest to explore vibration-induced bursting

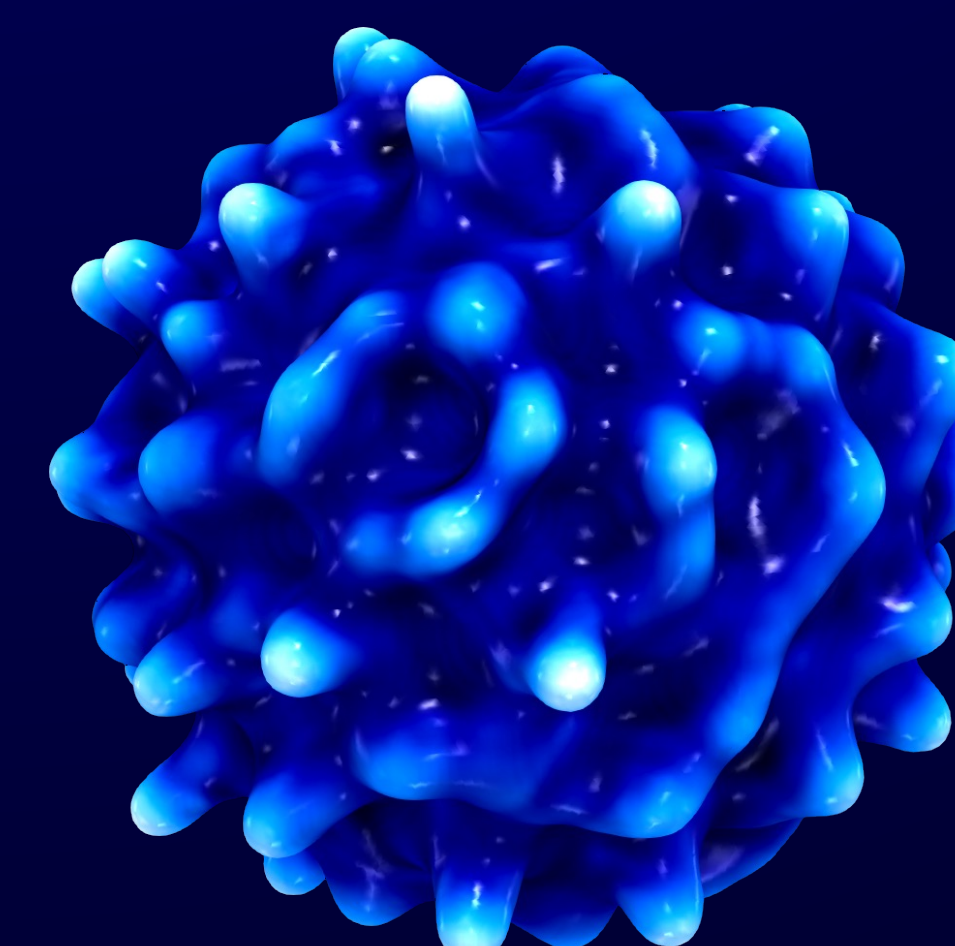
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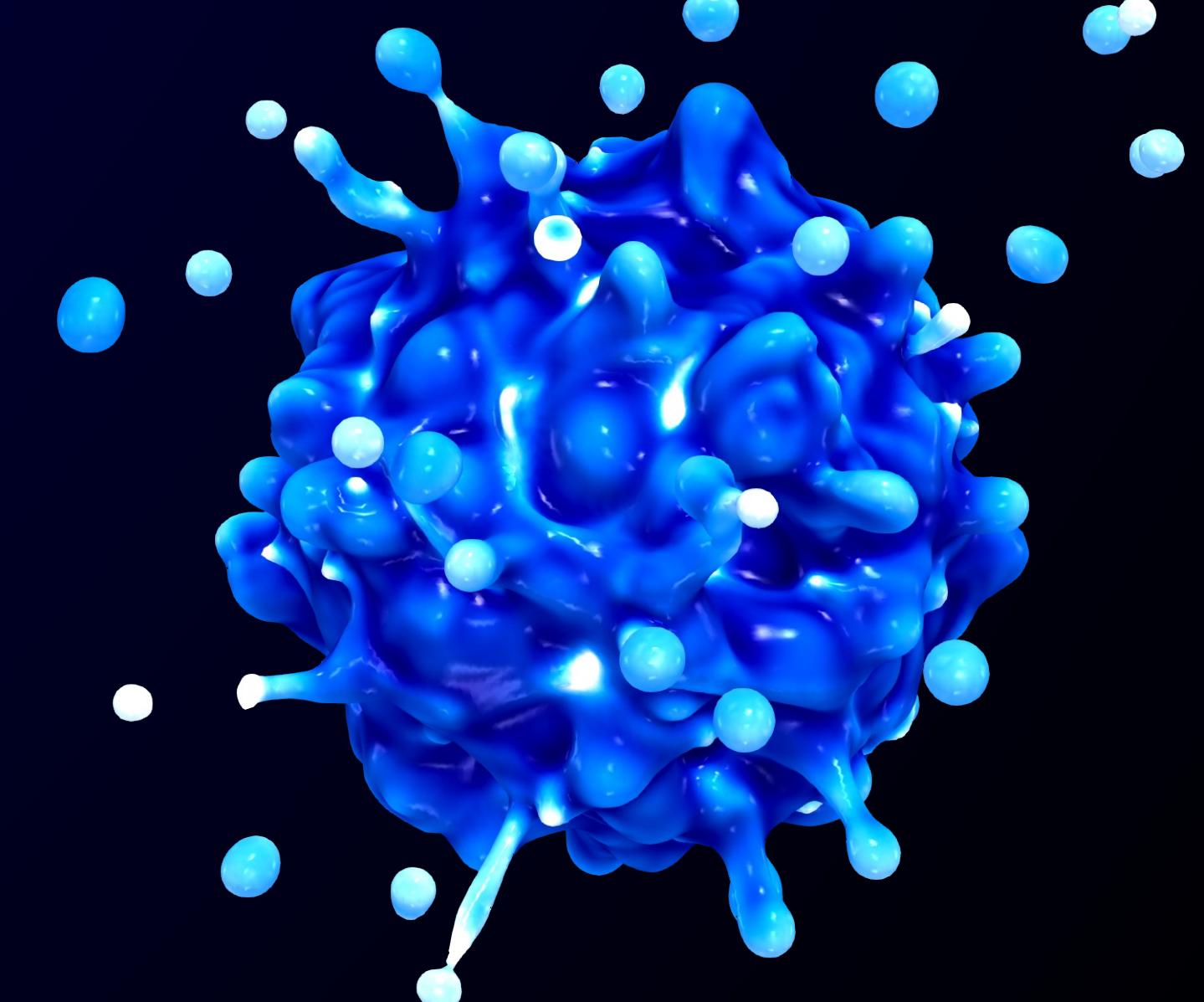
High amplitude acceleration at a frequency of 1040 Hz drives chaotic waves on a drop in zero gravity. We showcase the rich physics of a water drop bursting under radial vibrations using direct numerical simulations. The chaotic superposition of waves leads to craters of negative curvature that create localized jets. These complex jets and craters resemble the hair of the Greek goddess, Medusa, hence called, the *Drop Medusa*.

We invite the viewer to observe drop bursting at different angles to observe the analogies to numerous classical fluid-dynamical configurations: Rayleigh capillary pinch-off, Worthington jet formation and breakup.

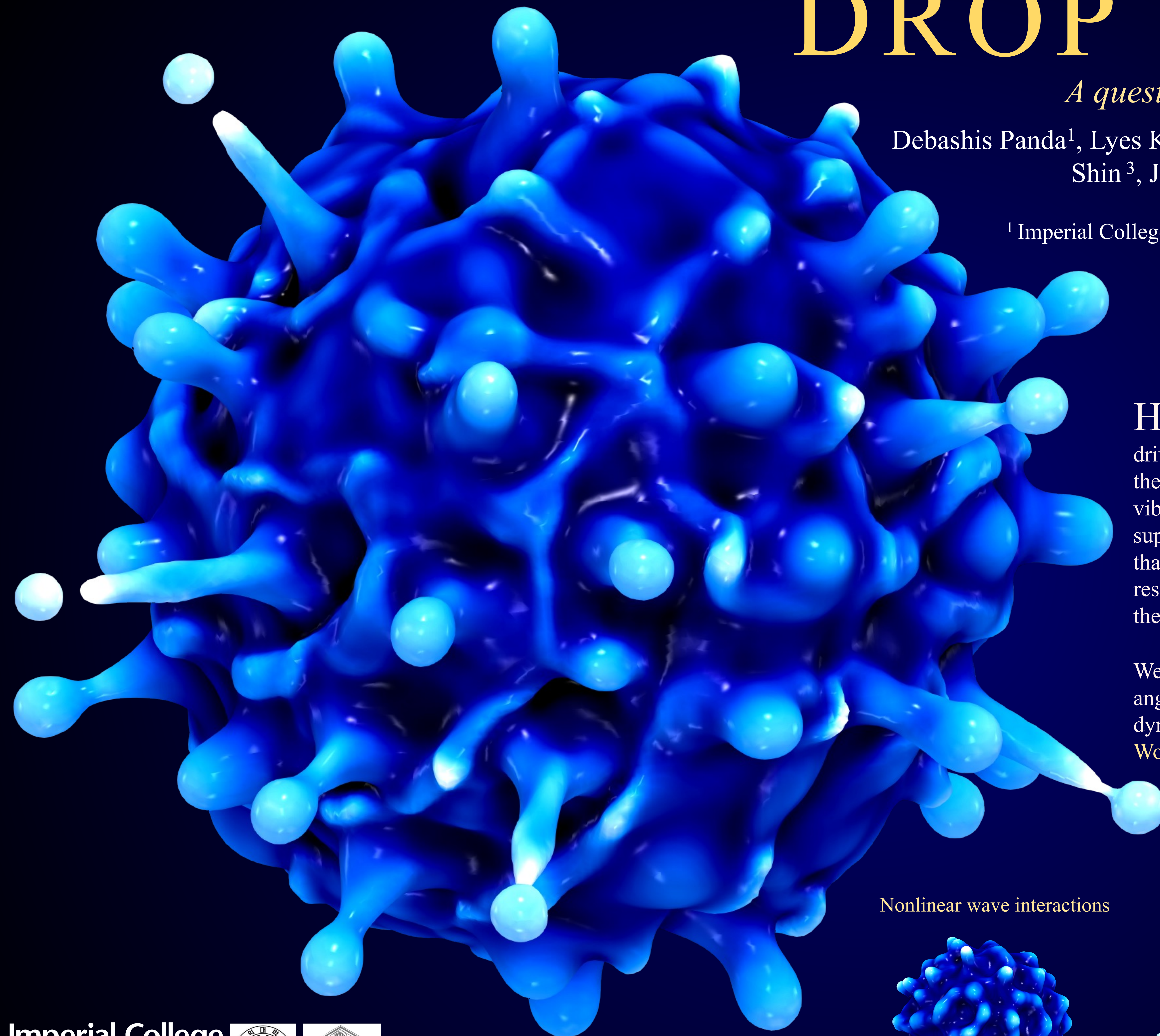
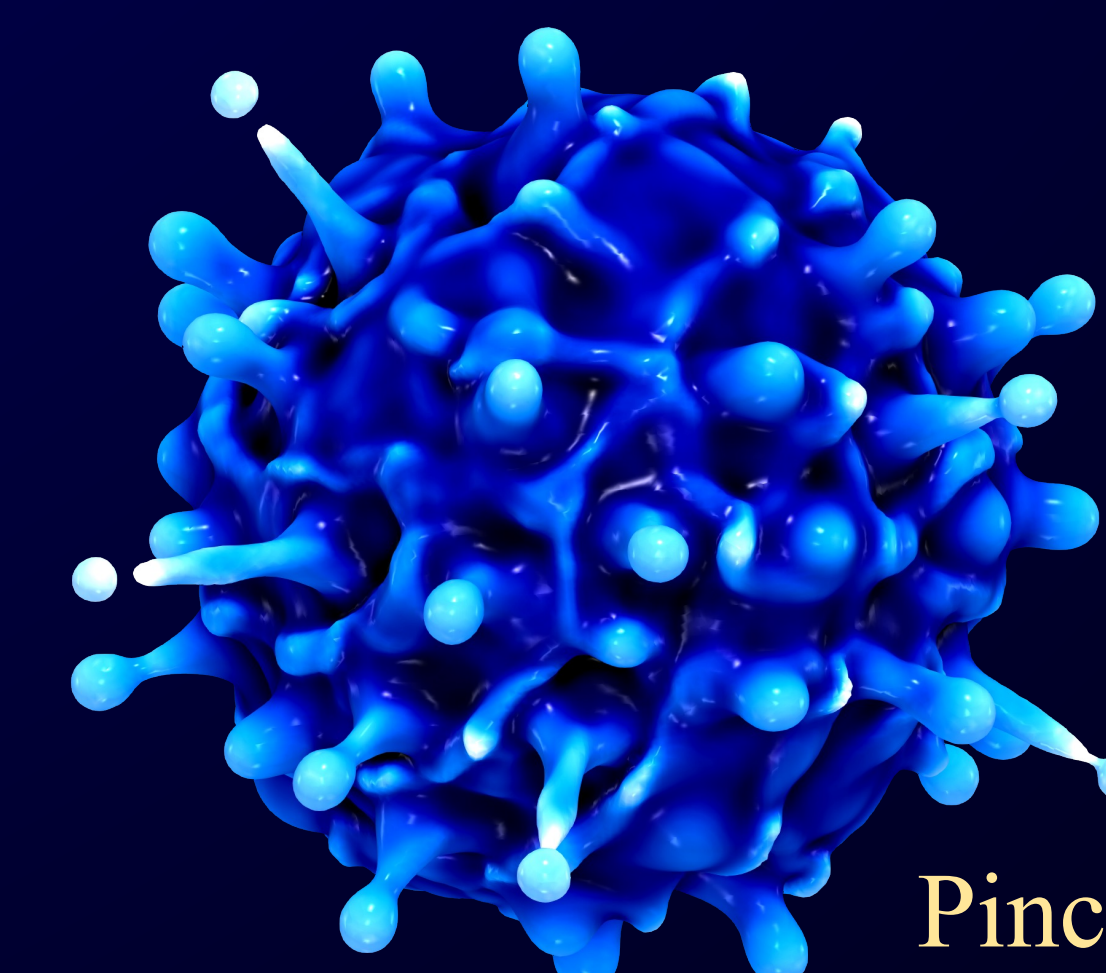
Nonlinear wave interactions



Jet formation



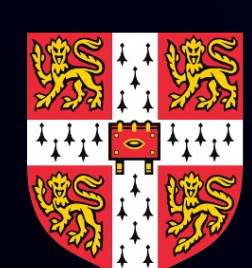
Pinch-off



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