

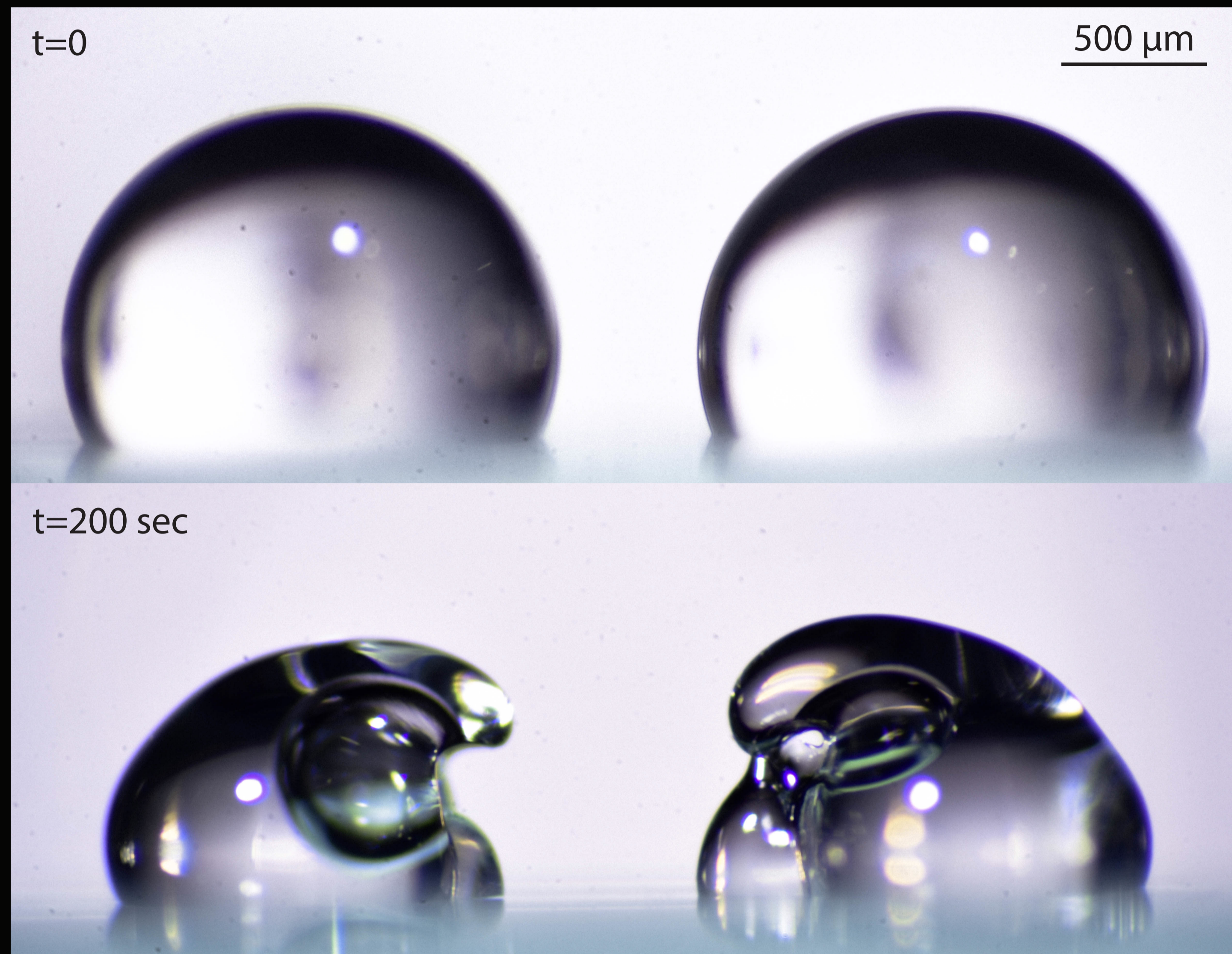
# Talking droplets

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*A nanoparticle laden water droplet evaporating on a hydrophobic substrate undergoes shell formation and buckles before it dries to form a solid precipitate[1].*

*What happens when we place another droplet in it's vicinity?*

*They communicate via vapour sensing.*

*Their vapours interact and locally suppress evaporation. This continues until the droplets recede in volume(losing mass due to evaporation) and move apart losing communication(vapours diffuse to the ambient). Due to the intervening vapour interaction period, the resulting morphology of the droplets appear like two persons involved in talking! When multiple droplets are arranged in an array, they can talk to each other. We call them- Talking Droplets.*

*Keep talking!*

*Here, the working fluid is water dispersed with silica nanoparticles at 40 wt. % particle loading. Substrate is PDMS coated on glass slab, and ambient conditions are 25°C and 45 % relative humidity.*

