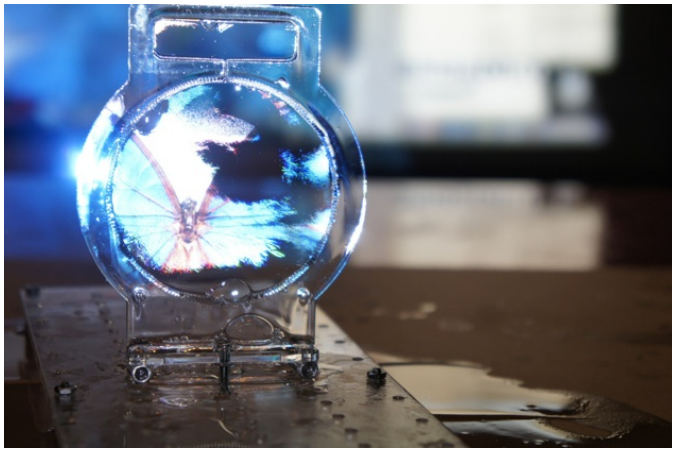
Are humble soap bubbles key for the ultra-thin displays of the future? Scientists from the University of Tokyo and Carnegie Mellon University say so, following their developments in bubble-based "colloidal displays."



A "colloidal display" consists of the surface of a soapy bubble (or "membrane screen"), over which a projector beams images. In this case the bubble is made out a complex colloid solution, and is far stronger than anything from your bubble bath or dish washer.

Since the surface of a soap bubble is a "micro membrane," it is both transparent and reflective. The researchers use ultrasonic vibrations to control the membrane screen, changing its transparency and reflective surface properties. Images are then beamed on the micromembrane using a regular projector.

One can also combine multiple membranes for dimensional effects.

"The combination of ultrasonic waves and ultra-thin membranes makes more realistic, distinctive, and vivid images on screen. This system contributes to a new path for display engineering with sharp images, transparency, BRDF (bidirectional reflectance distribution function), and flexibility," lead researcher Yoichi Ochiai says.

The micro membrane screen is flexible and displays both 2D and 3D images. The researchers claim it makes the thinnest transparent display available.

Of course the technology is still at its very early days, but is already patent pending.

Watch Colloidal Display Overview

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