

Abstract Submitted  
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**Dynamic Pattern Formation In a Bubble-Generating Concentric Microfluidic Device**<sup>1</sup> KENG-HUI LIN, KUO-YUAN CHUNG, Institute of Physics, Academia Sinica, Taipei, Taiwan — We observe rich spatiotemporal patterns of bubbles inside liquid droplets through a concentric microfluidic device made by two capillary tubes flown with gas and liquid respectively. When the gas pressure increases, the bubbles change from monodisperse, bidisperse to polydisperse. When the liquid flow rate to the gas flow rate is small, the bubble can not be stabilized inside the liquid droplet. The diameter of the bubbles can be scaled with the ratio of gas flow rate to the liquid flow rate. Our device offers different geometry to understand the bubble breakup in the microfluidic device.

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