Centrifugal Effect, Vortical Flow & Turbulence

A disk-like acrylic enclosure contains colored water and an air bubble. The disk is held on a plastic turntable base, and a small amount of cosmetic mica is added to the water for flow visualization purpose. By applying several flicks to the turntable the disk is brought to rotation, and as a result of centrifugal effect, the air bubble is moved from high pressure perimeter to the lowest pressure point, the center, as shown in the image (left). Also, vortical flow is made visible by the mica. If the direction of turning the turntable is alternated, the resulting turbulence can be visualized as well (right image).

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