

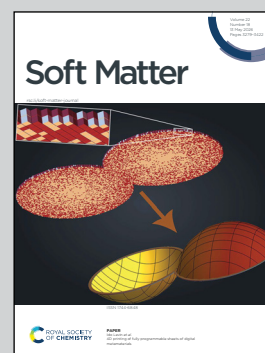
Showcasing research from Professor Chelakkot's laboratory, Department of Physics, Indian Institute of Technology-Bombay, Mumbai, India.

Dynamics of Marangoni-driven elliptical Janus particles

The motion of camphor-infused Janus particles at the air–water interface is studied experimentally and numerically. The particle dynamics, driven by Marangoni stresses, is governed by particle shape. While circular particles exhibit straight-line motion, more elongated particles follow circular trajectories, with radii and angular velocities set by their geometry. A theoretical model that couples camphor dynamics with particle transport explains how chemical properties determine the steady-state behavior.

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As featured in:



See Pabitra Masanta *et al.*,
Soft Matter, 2026, **22**, 3337.