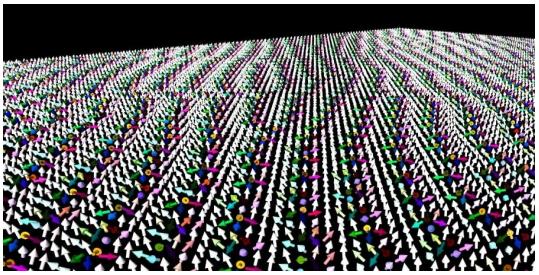

Contribution ID: **17** Type: **not specified**

Liquid drop with capillarity

Friday, 17 October 2025 10:15 (45 minutes)

I will present recent results on the free boundary problem for an incompressible, irrotational liquid drop of nearly spherical shape with capillarity. Some results are of technical nature, such as reduction to a problem on the boundary, the Hamiltonian structure and a linearization formula for the Dirichlet-Neumann operator. The main result is the existence of travelling waves, which are nontrivial fixed profiles rotating with constant angular velocity. I will also discuss the case of charged liquid drop, a classical model dating back to Lord Rayleigh.
This is a joint work with Pietro Baldi and Domenico La Manna (Naples).

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