

Abstract Submitted
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The dynamics of immersed boundaries in viscoelastic fluids JOHN CHRISPELL, RICARDO CORTEZ, DAMIR KHISMATULLIN, LISA FAUCI, Tulane University — Many biological fluids are viscoelastic and require a nonlinear constitutive equation to describe the evolution of the extra-stress tensor. We use an immersed boundary framework to model processes that involve the movement of immersed elastic boundaries interacting with a surrounding viscoelastic fluid. We present recent results on applications including dynamics of a closed membrane moving under surface tension, and phase-locking of swimming sheets.

Lisa Fauci
Tulane University

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