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Swimming in a viscoelastic fluid ERIC LAUGA, MIT — The fluid mechanics of swimming microorganisms was pioneered by G.I. Taylor more than fifty years ago, and is one of the most mature branch of biophysics. Most previous studies have assumed the fluid to be Newtonian. However, a variety of biologically relevant situations involve non-Newtonian fluids, including sperm motion in cervical mucus as well as ciliary transport of mucus in the lungs. In this talk, we present simple models of swimming in viscoelastic fluids and discuss the impact of elastic stresses on swimming kinematics and energetics.

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