Abstract Submitted
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In silico micro-swimmers: runs and tumbles[1] SOOKKYUNG LIM, University of Cincinnati — We present a mathematical model of a micro-swimmer E. coli that can freely run by a flagellar bundle and tumble by motor reversals. The Kirchhoff rod theory is used to model the elastic helical flagella and the rod-shaped cell body is represented by a hollow ellipsoid that can translate and rotate as a neutrally buoyant rigid body. The hydrodynamic interaction between the fluid and the bacteria is described by the regularized version of Stokes flow. In this talk, we will focus on how bacteria can swim and reorient the course of swimming and how parts of bacteria play a role in swimming.

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