

Abstract Submitted
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Fluid dynamics of phytoplankton with spines in unsteady shear flows HOA NGUYEN, Tulane University, LEE KARP-BOSS, PETER JUMARS, University of Maine, LISA FAUCI, Tulane University — Spines and other thin projections from cell surfaces literally expand the volume of fluid with which a cell interacts and may provide effective levers on which the flow can act. We use an immersed boundary formulation to solve the coupled phytoplankton-fluid system to predict the 3D trajectories of the cells within a background flow. We examine the effect of spines on the trajectories, along with the effect of stiffness properties of these spines.

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