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Bacteria Movement Near Surfaces

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ABSTRACT

Understanding the behaviors of bacteria near surfaces is crucial in many biological and ecological applications. This knowledge can be used to hinder undesired biofilm formation on medical instruments and wounds. On top of that, it could also provide further insights in biodegradation of dispersed oil. In this work, the behavior of Escherichia Coli near a surface was experimentally studied. We utilized an inverted microscope in the phase filed illumination mode and processed acquired images to track the motions of bacteria near surfaces with high accuracy and repeatability. Distribution of the cells when they reached a steady state shows that the number of bacteria near solid surfaces increases, which is consistent with previous studies.

KEYWORDS

Hydrodynamic interaction, escherichia coli, biodegradation