

Velocity fields around single and interacting particles sinking in mucus-rich water

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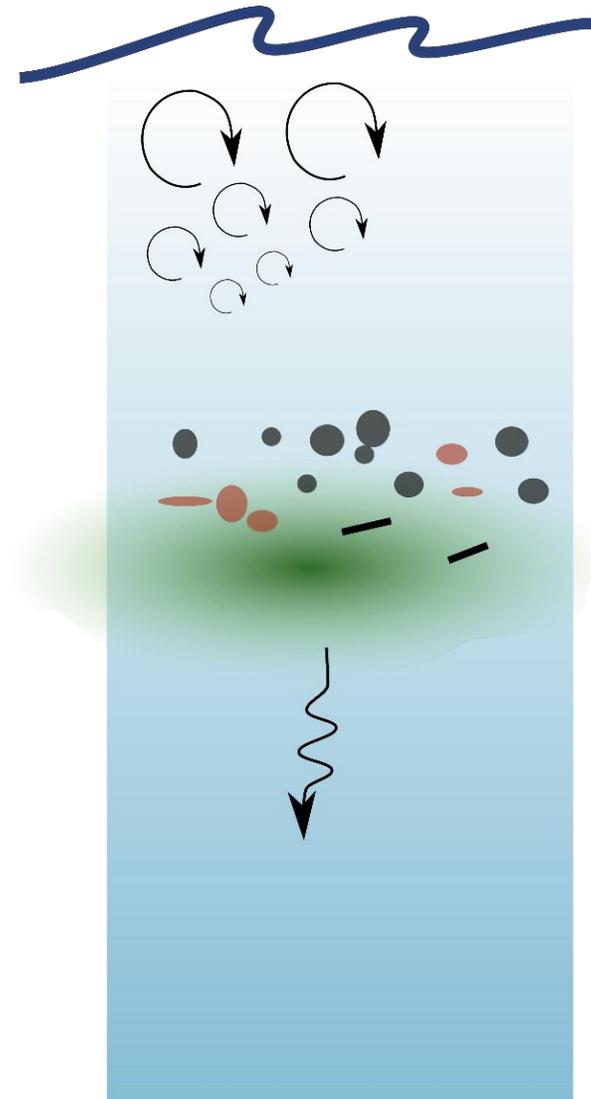
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Biopolymers extensively secreted by microorganisms can transform water into a non-Newtonian fluid

They can influence the settling dynamics of solids such as mineral grains, organic aggregates, and microplastics.

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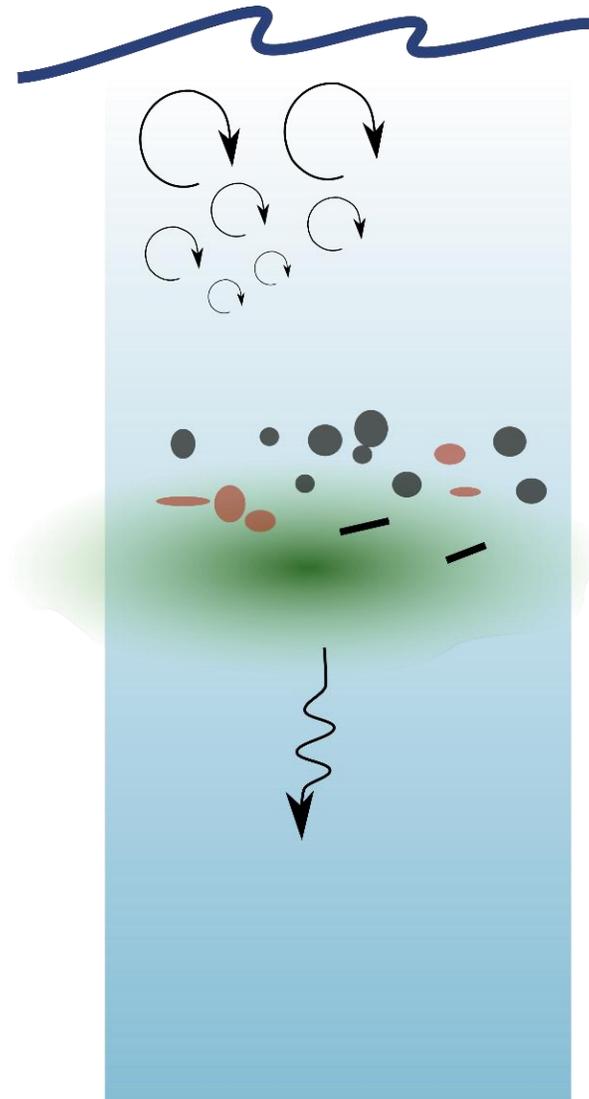
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How do the non-Newtonian properties of mucus-rich water influence the sinking dynamics of particles?



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Biopolymers **alter the flow properties**, leading to sinking behaviour and particle interactions counterintuitive from a Newtonian perspective.

We investigated these phenomena by combining **rheological measurements** of model fluids with **Particle Image Velocimetry**.

Our study demonstrated potential **implications for** particle transport, aggregation, and vertical flux in aquatic systems.

