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Titolo: *An expedition into the realm of minimal surfaces*

Abstract: Minimal surfaces have fascinated mathematicians for centuries. From the delicate shapes formed by soap films to deep connections with geometry, analysis, and the calculus of variations, they provide a remarkable meeting point of intuition and rigorous mathematics.

In this talk, we present some recent developments on nonlocal minimal surfaces, which can be seen as objects minimizing interfaces where interactions are no longer confined to infinitesimal neighborhoods but extend across long distances. These new geometric objects exhibit surprising phenomena and pose challenging mathematical questions.