

**Date:** October 19, 2023**Time:** 15:00 CET**Room:** UB iA (Universitat de Barcelona)**Online streaming:** [click here to join](#).

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## The Yau conjecture for nonlocal minimal surfaces

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In this talk we will explain a recent result on the existence of infinitely many nonlocal minimal surfaces, which are the critical points of a canonical definition of nonlocal perimeter, on any closed Riemannian manifold. The result is a consequence of very strong compactness properties for these new geometric objects, and which lead as well to Bernstein and De Giorgi theorems with some surprises. We will end the talk by describing further directions regarding the convergence of nonlocal minimal surfaces to classical minimal surfaces, making them an attractive new approximation with which to address old and new questions in the field. The talk is based on work with Michele Caselli and Joaquim Serra.