

Prescribed mean curvature surfaces and strictly stable minimal surfaces

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In the last decades, there has been fascinating progress in the variational theory for the area functional – that is, the codimension 1 volume –, using tools from PDEs and Geometric Measure Theory, and in connection with the problem of finding prescribed mean curvature (PMC) hypersurfaces.

In this talk, we describe some contributions from joint work with Jared Marx-Kuo (Rice University) in which we construct infinitely many PMCs for a large class of prescribing functions in a closed Riemannian manifold containing a strictly stable minimal hypersurface.