1147-35-684   **Costante Bellettini***, Fuld Hall, 1 Einstein Drive, Princeton, NJ 08540. *Stable hypersurfaces with prescribed mean curvature: applications of regularity and compactness theory.*

In a recent work with N. Wickramasekera we develop a regularity and compactness theory for stable hypersurfaces (technically, integral varifolds) whose generalized mean curvature is prescribed by a (smooth enough) function on the ambient Riemannian manifold. I will describe the relevance of the theory to different analytical and geometric problems, such as regularity of capillary interfaces, or existence of hypersurfaces with prescribed mean curvature. (Received January 28, 2019)