
XIN ZHOU, University of California, Santa Barbara
Min-max minimal hypersurfaces with free boundary

I will present a joint work with Martin Li. Minimal surfaces with free boundary are natural critical points of the area functional in compact smooth manifolds with boundary. In this talk, I will describe a general existence theory for minimal surfaces with free boundary. In particular, I will show the existence of a smooth embedded minimal hypersurface with free boundary in any compact smooth Euclidean domain. The minimal surfaces with free boundary were constructed using the min-max method. I will explain the basic ideas behind the min-max theory as well as our new contributions.