



Speaker: Mohammad Ghomi
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Thursday, February 21, 2008
2:00 PM
258 Hurley Hall

Title: Topology of Locally convex hypersurfaces with prescribed boundary.

Abstract:

An open problem in Classical Differential Geometry, posed by S. T. Yau, asks when does a closed curve in Euclidean 3-space bound a surface of positive curvature? We will give a survey of recent results related to this problem, including connections with the h-principle, Monge-Ampere equations, and Alexandrov spaces with curvature bounded below. In particular we will discuss recent joint work with Stephanie Alexander and Jeremy Wong on Topological finiteness theorems for nonnegatively curved surfaces filling a prescribed boundary, which use in part the finiteness and stability theorems of Gromov and Perelman, and answers a question of Guan and Spruck.