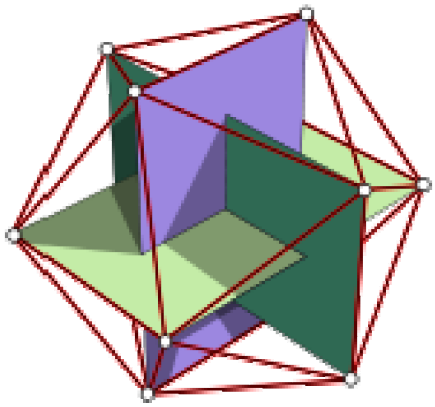
Department of Mathematics
University of Notre Dame

GEOMETRIC ANALYSIS SEMINAR

Speaker: Yevgeny Liokumovich
University of Toronto



Date: Thursday, October 22, 2020

Time: 12:00 PM

Location: Zoom

Zoom URL: notredame.zoom.us/j/96288130964?pwd=c2dDelJJTXhSdTBVSEtLYlI1NEdzZz09

Lecture Title:
Generic regularity of min-max minimal hypersurfaces

Abstract

Minimal hypersurfaces in 8-dimensional Riemannian manifolds may have isolated singularities. However, it follows from the results of R. Hardt, L. Simon and N. Smale that one can perturb away singularities of an area minimizing minimal hypersurface by a small change of the metric. I will talk about a similar problem for min-max minimal hypersurfaces (joint work with Otis Chodosh and Luca Spolaor). We show that for a generic 8-dimensional Riemannian manifold with positive Ricci curvature, there exists a smooth minimal hypersurface. Without the curvature condition, we show that for a dense set of 8-dimensional Riemannian metrics there exists a minimal hypersurface with at most one singular point. Our proof uses a construction of optimal nested sweepouts from a joint work with Gregory Chambers.

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