GEOMETRIC ANALYSIS SEMINAR

"The oriented Plateau problem and a question of Almgren"

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Abstract: Federer and Fleming integral currents allows to solve the Plateau problem in arbitrary Riemannian manifolds in any dimension and co-dimension. The interior regularity theory is well developed both in codimension 1 and in higher codimension, while the boundary regularity is fully resolved only in codimension 1. On the other hand, the current literature fails to provide (for the high codimension case) even a single regular point at the boundary unless we require rather restrictive assumptions on the ambient space and the boundary datum.

In this talk I will give an overview of the problem and show a first boundary regularity result for mass minimizing currents in any co-dimension, any ambient manifold and any regular boundary. This, among other things, allows to provide a positive answer to a question of Almgren and paves the way to further developments in the area.

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MIT, Room 2-105
Time: 3:00 PM

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