GEOMETRIC ANALYSIS SEMINAR

"An extension question for metrics and the Bartnik mass in General Relativity"

Richard Schoen
(Stanford and UCI)

Abstract: We will introduce the Bartnik quasi-local mass and discuss some of its properties. The definition postulates a difficult variational problem for exterior metrics about which we still know very little. In the very special case that the inner boundary is an an apparent horizon (or nearly one) it turns out to be possible to compute the Bartnik mass rather precisely and to describe what happens to a minimizing sequence. This ties in with geometric properties of apparent horizons and a conjecture of Gibbons in the spirit of the hoop conjecture of Thorne. The latter part of this talk will describe joint work with C. Mantoulidis.

Wednesday, March 23rd, 2016
MIT, Room 2-105
Time: 4:00 PM