GEOMETRIC ANALYSIS SEMINAR

"Fill-ins, extensions, scalar curvature, and quasilocal mass"

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Abstract: There is a special relationship between the Jacobi and the ambient scalar curvature operator. I'll talk about an extremal bending technique that exploits this relationship. It lets us compute the Bartnik mass of apparent horizons and disprove a form of the Hoop conjecture due to G. Gibbons. Then, I'll talk about a derived "cut-and-fill" technique that simplifies 3-manifolds of nonnegative scalar curvature. It is used in studying a priori L^1 estimates for boundary mean curvature for compact initial data sets, and in generalizing Brown-York mass. Parts of this talk reflect work done jointly with R. Schoen/P. Miao.

Wednesday, October 12th, 2016
MIT, Room 4-153
Time: 4:00 PM

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