1053-53-186 **Jeffrey L. Jauregui*** (jeff@math.duke.edu), Mathematics Department, Duke University, Box 90320, Durham, NC 27707. A Generalization of the Riemannian Penrose Inequality.

The Riemannian Penrose Inequality estimates the ADM mass of an asymptotically flat manifold in terms of the area of its boundary, provided the boundary consists of outer-minimizing minimal surfaces. In this talk I will discuss current work to give a lower bound for the mass in the case that the boundary is not necessarily minimal. Connections will be made to the theory of "zero area singularities." (Received September 02, 2009)