

PENGZI MIAO  
(UNIVERSITY OF MIAMI)

## **Scalar curvature and boundary mean curvature**

Given a compact manifold with nonnegative scalar curvature with boundary, we seek constraints imposed by the nonnegative scalar curvature on the mean curvature of the manifold boundary. This question is motivated by the quasi-local mass problem in general relativity. If time permits, we also discuss rigidity questions of isometric surfaces with the same mean curvature in static manifolds.