

## **Tom Farrell**

Title: Space of negatively curved metrics; bundles with negatively curved fibers

Abstract: This is a report on joint work with Pedro Ontaneda. Let  $R, G$  and  $T$  denote the spaces of all negatively curved Riemannian metrics, geometries and marked geometries (respectively) on an  $n$ -dimensional closed smooth manifold  $M$ ;  $G$  and  $T$  are quotient spaces of  $R$  where isometric and marked isometric metrics (respectively) are identified. We focus attention on the case where  $n$  is large instead of the classical setting  $n = 2$ . And obtain results on the homotopy and homology of  $R, G$  and  $T$ ; e.g.  $R$  has infinitely many components when  $n > 9$ . And if  $M$  supports a real hyperbolic metric (and  $n > 9$ ) then  $G$  is also disconnected for sufficiently large finite sheeted covers of  $M$ . These results relate to studying bundles equipped with negatively curved fibers.