



**Speaker:** Marco Radeschi  
WWU Muenster

Friday, January 15, 2016

4:00 PM

117 Hayes-Healy Hall

**Title:** Metrics on spheres with all geodesics closed.

**Abstract:**

Riemannian manifolds with all geodesics closed have been studied since the beginning of last century, when Zoll showed the existence of a non-round 2-dimensional sphere of this type. A conjecture of Berger states that for any simply connected manifold with all geodesics closed, the geodesics must have the same length. The result was proved in the case of the 2-sphere by Grove and Gromoll. In this talk, I will give an overview of the history of this problem, and will show recent joint work with B. Wilking, where we prove that the Berger's conjecture also holds for every sphere of dimension  $>3$ .