

Mathematics Student Colloquium

Prof. John Loftin

**Harmonic Maps in
Dimension One and Two**

Abstract: A smooth map between two Riemannian manifolds has a natural energy, whose critical points are called harmonic maps. Harmonic maps from dimension-one manifolds are simply geodesics parametrized with constant speed. We will also discuss the geometry of harmonic maps from surfaces and discuss their relation to conformal structures, Sobolev spaces, and the topology of the target through the famous removable singularities theorem of Sacks-Uhlenbeck.

Wednesday, October 10

4-5pm

204 Smith Hall