



Speaker: Renato Bettiol
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Tuesday, October 26, 2010
9:30 AM
258 Hurley Hall

Title: Geometric applications of an equivariant implicit function theorem

Abstract:

Several geometric variational problems are invariant under the (local) action of (several) finite dimensional Lie group(s). For instance, constant mean curvature hypersurfaces, closed (semi-) Riemannian geodesics and harmonic maps are critical points of functionals that are invariant under a symmetry group. I will discuss applications of an abstract implicit function theorem cast in infinite dimensional Banach manifolds for functions with low regularity to such variational problems, avoiding as much as possible all technicalities. I will also briefly comment on bifurcation phenomena in this context and possible generalizations. This talk is based on joint work with G. Siciliano and P. Piccione.