Marco Mazzucchelli:

LOCALLY MAXIMAL CLOSED REEB ORBITS OF REEB FLOWS

A compact invariant set of a flow is called locally maximal when it is the largest invariant set in some neighborhood. In this talk, based on joint work with Erman Cineli, Viktor Ginzburg, and Basak Gurel, I will present a "forced existence" result for the closed orbits of certain Reeb flows on spheres of arbitrary odd dimension:

- If the contact form is non-degenerate and dynamically convex, the presence of a locally maximal closed orbit implies the existence of infinitely many closed orbits.

- If the locally maximal closed orbit is hyperbolic, the assertion of the previous point also holds without the non-degeneracy and with a milder dynamically convexity assumption.

These statements extend to the Reeb setting earlier results of Le Calvez-Yoccoz for surface diffeomorphisms, and of Ginzburg-Gurel for Hamiltonian diffeomorphisms of certain closed symplectic manifolds.