1050-53-30   **Fabian J. Ziltener*** (`fabian@math.toronto.edu`), 8 Lanark Avenue, Apartment # 2, Toronto, Ontario M6C 2B3, Canada. *Coisotropic Submanifolds, Leaf-wise Fixed Points, and Presymplectic Embeddings.*

Let (M, ω) be a symplectic manifold, $N \subseteq M$ a coisotropic submanifold, and $\varphi : M \to M$ a Hamiltonian diffeomorphism. The main result presented in this talk is that the number of leaf-wise fixed points of φ is at least the sum of the $\mathbb{Z}_2$-Betti numbers of N, if φ is Hofer close to the identity and some other assumptions hold. In the extreme case $N = M$ these points are the fixed points of φ. On the other hand, if N is Lagrangian and connected, then they are the intersection points of N with $\varphi^{-1}(N)$. As an application, I will discuss a presymplectic non-embedding result, which naturally generalizes Gromov's Lagrangian non-embedding result. (Received January 06, 2009)