**Small positive loops of contactomorphisms**

Lucía Martín Merchán

Contact geometry focuses on the study of odd dimensional manifolds $M^{2n+1}$ which admit a hyperplane distribution $\xi = \ker \alpha$ such that the dierential form $\alpha \in \Omega^1(M)$ satisfies $\alpha \wedge d\alpha^n \neq 0$. Those manifolds are locally identical due to Darboux theorem, which provides a local model for $\alpha$. By contrast, a global criteria related to homotopic properties of distributions classifies compact contact manifolds in two different types: overtwisted and tight.

Appart from doing a review of the previous concepts, in this talk we are going to tackle a problem related to loops of contactomorphism $\Phi$: $M \times S^1 \rightarrow M$ on overtwisted manifolds. In particular, we are going to prove that if the Hamiltonian of a loop $H = \alpha(\frac{d}{dt}\Phi_t)$ is positive, then it is bounded below by a universal constant which only depends on $\alpha$.