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## Contact Hamiltonian Floer homology and its applications

*mardi 13 juin 2023 11:00 (1 heure)*

In this talk, we will discuss a Floer-theoretic approach to studying Hamiltonian dynamics on contact manifolds, called contact Hamiltonian Floer homology. On the one hand, it provides a characterization of the rigidity of positive loops in the contactomorphism group which is a peculiar object often investigated in contact geometry. Mysteriously, our characterization highly relates to certain exotic behavior of the Floer continuation map in this setting. On the other hand, from an algebraic perspective, it admits a persistence module type upgrade (we call a gapped module), where one can read off numerical data from the associated barcode. These data help to define contact spectral invariant, contact boundary depth, etc., which also initiates the discovery of novel rigidity phenomenon of subsets in a contact manifold. This talk is based on joint work with Igor Uljarević.

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