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TBA

Mercredi 13 Décembre 2017, 10 :00
IHES, Centre de conférences Marilyn et James Simons(Séminaire de Géométrie Arithmétique Paris-Pékin-Tokyo)
Domaines : hep-th

Titre : *Exponential motives*

Orateur : **J. Fresan (Ecole polytechnique & IHES)**

Résumé : *What motives are to algebraic varieties, exponential motives are to pairs (X, f) consisting of an algebraic variety over some field k and a regular function f on X. In characteristic zero, one is naturally led to define the de Rham and rapid decay cohomology of such pairs when dealing with numbers like the special values of the gamma function or the Euler constant gamma which are not expected to be periods in the usual sense. Over finite fields, the étale and rigid cohomology groups of (X, f) play a pivotal role in the study of exponential sums. Following ideas of Katz, Kontsevich, and Nori, we construct a Tannakian category of exponential motives when k is a subfield of the complex numbers. This allows one to attach to exponential periods a Galois group that conjecturally governs all algebraic relations among them. The category is equipped with a Hodge realisation functor with values in mixed Hodge modules over the affine line and, if k is a number field, with an étale realisation related to exponential sums. This is a joint work with Peter Jossen (ETH).*
