Noncommutative geometry, conformal geometry, and the cyclic homology of crossed-product algebras.

mardi 30 mai 2017 16:05 (45 minutes)

In the first part of the talk, I will present some joint work with Hang Wang. We use noncommutative geometry to obtain a local index formula in conformal geometry that takes into account the action of an arbitrary group of conformal diffeomorphisms. This leads us to a construction of a whole new family of conformal invariants. The computation of these invariants uses the explicit computation of the cyclic homology of crossed-product algebras by means of explicit quasi-isomorphisms that I constructed recently. This will be the topic of the 2nd part of the talk. The results are expressed in terms of suitable versions of equivariant (co)homology. As a result this allows us to compute the conformal invariants of the 1st part in terms of equivariant characteristic classes.

Orateur: M. PONGE, Raphael