Colloquium de Mathématiques de Rennes

Lundi 10 Juin 2013, à 16H30,
après un thé-gâteaux servi à 16h,
bâtiment 22 – 23, campus de Beaulieu.

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Global Geometry and Analysis on Locally Pseudo-Riemannian Homogeneous Spaces

The local to global study of geometries was a major trend of 20th century geometry, with remarkable developments achieved particularly in Riemannian geometry.

In contrast, in areas such as Lorentz geometry, familiar to us as the space-time of relativity theory, and more generally in pseudo-Riemannian geometry of general signature, surprising little is known about global properties of the geometry even if we impose a locally homogeneous structure.

Taking anti-de Sitter manifolds, as an example, I plan to explain two programs:
1. (global shape) existence problem of compact locally homogeneous spaces, and defomation theory;
2. (spectral analysis) construction of the spectrum of the Laplacian, and its stability under the deformation of the geometric structure.

Prochain Colloquium : Septembre 2013.