1078-37-222   **Tony Samuel*** (`swiss.tony.82@gmail.com`). *Spectral metric spaces for Gibbs measures.*
The common idea of Connes' Non-commutative Geometry is to represent a geometric object by an operator algebra and in doing so one is able to build an analogue of a differential structure for these operator algebras. Connes showed that the starting point in forming such a theory is to form a spectral triple.

In this talk we will show how one can construct a spectral triple which will represent a sub-shift of finite type Σ equipped with a Gibbs measure μ. Specifically, we will construct a spectral triple from which one can recover both the geometry of Σ as well as the measure μ. Since a sub-shifts of finite type can be used to represent a wide variety of fractal sets, the theory we will present will allow one to begin to describe an analogue of a differential structure for a wide class of fractal sets.

I will try to present the material so that no prior knowledge of non-commutative geometry will be required. (Received December 09, 2011)