1083-60-36   **Gustavo Didier*** (`gdidier@tulane.edu`), 6823 St. Charles Avenue, New Orleans, LA 70118.
Probabilistic and inferential aspects of self-similarity in the multivariate setting.

A stochastic process is said to be self-similar (s.s.) when its law scales according to a power $0 < H < 1$, the so-called the Hurst parameter. An example of a self-similar process is the classical Brownian Motion.

In this talk, we will give a broad view of related probabilistic and inferential aspects of self-similarity in the multivariate setting, for which there are still many open research questions. Of particular interest is a class of self-similar processes, called Operator Fractional Brownian Motions (OFBMs). We establish integral representations of OFBMs and study issues such as spectral properties, time reversibility and the identi fiability of the parametrization. We will then compare the Fourier and wavelet spectra of OFBMs, and discuss a recently developed wavelet-based inferential method. (Received August 02, 2012)