1107-60-435   **David Nualart*** (`nualart@ku.edu`). *Stochastic heat equation with rough multiplicative noise.*

In this talk we present some recent results on the one-dimensional stochastic heat equation

$$\frac{\partial u}{\partial t} = \frac{1}{2}\frac{\partial^2 u}{\partial x^2} + \sigma(u)\frac{\partial^2 W}{\partial t \partial x},$$

where W is a zero mean Gaussian noise, which is white in time and it has the covariance of a fractional Brownian motion with Hurst parameter $H \in (1/4, 1/2)$ in the space variable. We will show the existence and uniqueness of a solution with values in some suitable Sobolev space of functions. In the linear case $\sigma(u) = u$, we will establish Feynman-Kac formulas for the solution and for its moments, which lead to moment estimates and intermittency properties. (Received January 20, 2015)