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Jonathan Chavez-Casillas* (jonathan.chavezcasil@ucalgary.ca), Mathematical Sciences, University of Calgary, 2500 University Dr. NW, Calgary, T2N 1N4, Canada, and **Anatoliy Swishchuk**. *A Level-1 Limit order book with time dependent rates.*

In this talk, we will present a model for a level-1 Limit Order book, similar to the model presented by Cont and de Larrard (2012), but as empirical evidence shows, the distribution of the inter arrival times between orders seems to be different from a constant exponential distribution. Therefore, the given assumption of homogeneous Poisson arrivals is relaxed to consider non-homogeneous Poisson arrivals. Under the relaxed assumptions, the mid-price diffusive behaviour is presented. (Received February 21, 2016)