1127-60-67 **José Enrique Figueroa-López** (figueroa@math.wustl.edu), One Brookings Drive, St. Louis, MO 63130-4899, **Ruoting Gong*** (rgong2@iit.edu), 10 West 32nd Street, Chicago, IL 60616, and **Matthew Lorig** (mlorig@uw.edu), 4182 W Stevens Way NE, Seattle, WA 98195-3925.

Short-Time Asymptotics for Options on Leveraged ETFs under Exponential Lévy Models with Local Volatility.

In this talk, we consider the small-time asymptotics of options on a Leveraged Exchange-Traded Fund (LETF) when the underlying Exchange Traded Fund (ETF) exhibits both local volatility and Lévy jumps of either finite or infinite activity. We show that leverage modifies the drift, volatility, jump intensity, and jump distribution of an LETF in addition to inducing the possibility of default, even when the underlying ETF price remains strictly positive. Our main results are closed-form expressions for the leading order terms of off-the-money European call and put LETF option prices, near expiration, with explicit error bounds. These results, in turn, suggest a method to hedge off-the-money LETF options near expiration using options on the underlying ETF. Finally, we derive a second-order expansion for the implied volatility of an off-the-money LETF option and show both analytically and numerically how this is affected by leverage. (Received January 20, 2017)