Seminar Speaker is Dr. Eli Barkai
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The title of his seminar would be: ***"Fractional Advection-Diffusion-Asymmetry Equation***"

Fractional kinetic equations employ non-integer calculus to model anomalous relaxation and diffusion in many systems. While this approach is well explored, it so far failed to describe an important class of transport in disordered systems. Motivated by work on contaminant spreading in geological formations, we propose and investigate a fractional advection-diffusion equation describing the biased spreading packet. While usual trans- port is described by diffusion and drift, we find a third term describing symmetry breaking which is omnipresent for transport in disordered systems. Our work is based on continuous time random walks with a finite mean waiting time and a diverging variance, a case that on the one hand is very common and on the other was missing in the kaleidoscope literature of fractional equations. The fractional space derivatives stem from long trapping times, while previously they were interpreted as a consequence of spatial Levy flights