Harbir Lamba

Economics, finance and far-from-equilibrium dynamics.

Abstract: The standard models of neo-classical economics and modern finance make very strong assumptions about the rationality, incentives, and efficiency of the individuals, institutions and processes within the system. These assumptions have resulted in equilibrium descriptions of reality which are mathematically (and often ideologically!) convenient but which are fundamentally incapable of recognizing, let alone predicting, financial/economic bubbles and crashes.

I will demonstrate how such assumptions can be systematically weakened in a way that is consistent with real-world deviations from the idealized models. The resulting agent-based models can be viewed as a stability analysis or `stress test' of the standard assumptions. Both the numerics and the analysis suggest that the equilibrium solutions will be replaced by boom-and-bust far-from-equilibrium dynamics over surprisingly long multi-year timescales.