Geometry, Groups and Dynamics/GEAR Seminar
(held at the Illinois hub of GEAR)

12:00 pm, Tuesday, April 10, 2018, 243 Altgeld Hall
Francesco Cellarosi (Queens University, Canada)
Central Limit Theorem for odometers and B-free integers

Abstract: Odometers (or von Neumann–Kakutani adding machines) are classical examples of dynamical systems of low complexity, much alike irrational rotations of the circle. We consider generalized adding machines. In spite of their rigid behaviour (zero entropy, not weakly mixing), we are able to prove a Central Limit Theorem for the ergodic sums corresponding to certain (randomly chosen) observables, generalizing the work of M.B. Levin and E. Merzbach. Time permitting, I will describe the connections of odometers to the dynamical systems naturally arising when studying the statistical properties of B-free integers and explain why it would be interesting to obtain a central limit theorem for these systems. Joint work with Maria Avdeeva.

Video