

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

**1:00 pm, Friday, April 20, 2018 343 Altgeld Hall**

**Eugen Mihailescu (Institute of Mathematics of the Romanian Academy)**

**Dynamics for Smale skew products and conformal systems with overlaps**

Abstract: In this talk I will present several results in the dynamics of skew products over countable shifts of finite type, and of conformal iterated function systems with overlaps. Jointly with M. Urbanski, we proved the exact dimensionality of almost all conditional measures in fibers, and settled the problem of global exact dimensionality of equilibrium measures for Smale spaces. This is applied in particular to extending a conjecture in Diophantine approximation. Another class of skew products are obtained from iterated function systems (IFS) with overlaps. The case of arbitrary overlaps is very different from the case when the Open Set Condition is satisfied. We introduce and study asymptotic overlap numbers of measures. These numbers are then applied to dimension estimates for projections of measures on fractal limit sets, and they can be computed in certain concrete cases.

Video (unavailable)