

**Title: Universal minimal dynamical systems**

**Abstract:** Each topological group  $G$  admits a unique universal minimal dynamical system  $(M(G), G)$ . For a locally compact non-compact group this is a nonmetrizable dynamical system with rich algebraic structure, on which  $G$  acts effectively. However there are topological groups for which  $M(G)$  is the trivial one point system (extremely amenable groups), as well as topological groups  $G$  for which  $M(G)$  is a metrizable space and for which one has an explicit description. It turns out that these questions are connected with the phenomenon of concentration of mass in high dimensional structures. I will review some results obtained recently in this area by Pestov, Uspenskji and Weiss and myself. In particular I will identify  $(M(S), S)$ , for the topological group  $S = S(\mathbb{Z})$  of all the permutations of the integers  $\mathbb{Z}$  with the topology of pointwise convergence, as a symbolic dynamical system.