STEFANO FERRI, Universidad de los Andes

Large free semigroups in the WAP-compactification

A digital representation of a semigroup $(S, \cdot)$ is a family $\langle F_t \rangle_{t \in I}$, where I is a linearly ordered set, each F_t is a finite non-empty subset of S and every element of S is uniquely representable in the form $\prod_{t \in H} xt$ where H is a finite subset of I, each $xt \in F_t$ and products are taken in increasing order of indices. (If S has an identity 1, then $\prod_{t \in \emptyset} xt = 1$.)

We use digital representation to show that if G is an Abelian group with cardinality κ, then the Weakly Almost Periodic compactification of G contains a copy of a free Abelian semigroup of cardinality 2^{2^κ}.

This is joint work with Neil Hindman and Dona Strauss.