

Title: On topological dynamics in model theory

I will mainly focus on the idea of application of methods and tools of topological dynamics in model theory. This approach was initiated by Newelski and further developed by several researchers. After a brief overview of basic notions from general topological dynamics, I will explain how these notions appear naturally in model theory; this in particular leads to various notions of large sets or types. The main part of this tutorial will be devoted to explaining interactions between some dynamical invariants (Ellis group, generalized Bohr compactification) and model-theoretic invariants (quotient of definable groups by certain components, Galois groups of first order theories), which lead to non-trivial applications to Borel cardinalities of bounded invariant equivalence relations (by Pillay, Rzepecki, and myself). I will also briefly explain why the Ellis group of some natural flow considered in model theory is in fact a "model-theoretic" notion; this comes from my recent paper with Newelski and Simon, and uses a new notion which we called the "content of a sequence of types". If time permits, I may also mention some other connections between topological dynamics and model theory.