

## Logic Seminar

*Status of the Borovik-Cherlin conjecture for finite Morley rank actions with a high degree of generic transitivity.*

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**Abstract:** It became clear through work of Borovik and Cherlin in 2008 that the classification theory for groups of finite Morley rank (fMr) is sufficiently developed that general questions about permutation groups of fMr can be settled even though the classification itself remains incomplete. This is a particularly salient direction since the study of uncountably categorical theories is intertwined with binding groups of fMr (acting on realizations of types).

Borovik and Cherlin posed several motivating problems, many of which are centered around the notion of “generically  $n$ -transitive” actions. In this talk, we will discuss the status and implications of their conjecture that the only transitive and generically  $(n + 2)$ -transitive group of fMr acting on a set of rank  $n$  is  $\mathrm{PGL}_{n+1}$  acting naturally on projective  $n$ -space. Among other things, we will highlight a general approach to constructing a projective geometry in this context, and we will also illustrate how this conjecture is intertwined with minimal fMr representations of the finite symmetric groups. The talk will begin with a brief overview of the fMr landscape—knowledge of advanced theory of groups of fMr will be not be required.

Tuesday, March 19 at 3:30 PM in 427 SEO